Indian Health Focus

Elders

2000-2001

US DEPARTMENT OF HEALTH AND HUMAN SERVICES

Indian Health Service
Office of Public Health Support

Division of Program Statistics

Cover Photo
"Native American Elder Getting a Check Up"

Photo courtesy of the Indian Health Service/
US Department of Health and Human Services.

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INTRODUCTION

The Indian Health Service (IHS) is an agency of the Department of Health and Human Services (HHS). The IHS goal is to assure that comprehensive, culturally-acceptable personal and public health services are available and accessible to American Indian and Alaska Native (AI/AN) people. The mission of the IHS, in partnership with AI/AN people, is to raise their physical, mental, social, and spiritual health to the highest level.

The IHS has carried out its responsibilities through developing and operating a health services delivery system designed to provide a broad-spectrum program of preventive, curative, rehabilitative, and environmental services. This system integrates health services delivered directly through IHS facilities, purchased by IHS through contractual arrangements with providers in the private sector, and delivered through Tribally operated programs and Urban Indian health programs.

The IHS is concerned with the health of AI/AN of all ages. The IHS presents an overview of the health status of AI/AN in its annual publication, *Trends in Indian Health*. However, IHS recognizes that there are segments and conditions of the AI/AN population that require special attention, such as infants, youth, women, the elderly and injuries. This publication examines the health status of AI/AN elders. It is based on data published in the IHS publication *2000-2001 Trends in Indian Health.*

The population of interest for this publication is AI/AN elders residing in the IHS service area. Different age groups are associated with the term "elder" (e.g., 50 years plus, 55 years plus, 65 years plus) depending upon the organization and purpose involved. For this publication, elders are defined as persons who are 55 years old and older to correspond with the target population for the IHS and Tribal Elder Care Initiative. The IHS service area consists of counties on and near federal Indian reservations. The AI/AN people residing in the service area comprise about 60 percent of all AI/AN people residing in the U.S. It is estimated to be approximately 1.6 million in 2003 compared to 2.6 million in the entire U.S.

SUMMARY OF DATA

Elders, defined for this publication as persons 55 years and over, comprise a smaller proportion of the AI/AN population than they do of the U.S. general population. According to the 1990 census, the elderly comprise 11 percent of the AI/AN population, but 21 percent of the U.S. all-races population and 23 percent of the U.S. white population. In FY 1980, there were about 93,000 elders in the IHS service population. That number has risen to about 135,000 in FY 1990. By the year 2005, the number of elders is about 185,000. The largest age group within the elder population is for persons 55 to 59 years of age. They currently consist of about 49,000 individuals.

AI/AN elders also have a lower economic status than elders in the U.S. general population. The 1990 census indicates that 31.6 percent of AI/AN of all ages live below the poverty level in contrast to 13.1 and 9.8 percent for the U.S. all-races and white populations, respectively. For 65 to 74 year old persons, the corresponding percentages are 26.9, 10.4, and 8.4. For 75 years and older, the corresponding percentages are 33.3, 16.5, and 14.6.

AI/AN die at relatively younger ages than the U.S. general population, i.e., the AI/AN population has proportionately less deaths in the older age groups. The percentage for AI/AN elders for age groups 55 and over was 60.4 which is lower than the U.S. all-races (84.7), U.S. whites (87.0), and U.S. Black (70.2) populations. The highest percentage (18.6) of AI/AN elder deaths pertains to age group 65 to 74 years. These AI/AN counts have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

Although there are relatively fewer elders currently in the AI/AN population as compared to the U.S. general population, AI/AN life expectancy has shown dramatic increases since the early 1970's. AI/AN life expectancy at birth has increased 11 percent between 1972-74 and 1996-98, i.e., from 63.6 years (unadjusted) to 70.6 years (adjusted). The 1996-1998 AI/AN life expectancy is 5.9 years less than the U.S. all-races life expectancy of 76.5 years for 1997 and 6.6 years less then for the U.S. whites life expectancy of 77.2 years for 1997. The AI/AN rates have been adjusted for misreporting of race on the state death certificates.

The leading causes of death for the age group 55 to 64 years vary considerably between the AI/AN population and the U.S. general population. For AI/AN, the top two causes are diseases of the heart and malignant neoplasms; the order is reversed for U.S. all-races and whites. The third and fourth leading causes for AI/AN are diabetes mellitus and unintentional injuries, while for U.S. all-races and whites, they are chronic obstructive pulmonary diseases and cerebrovascular diseases. In contrast, AI/AN aged 65 and over tend to die of the same causes, although at different rates, as this age group in the U.S. general population. The top two leading causes of death are the same for AI/AN, U.S. all-races, and U.S. whites 65 years and older – diseases of the heart and malignant neoplasms. The third and fourth leading cause differs among these groups. For AI/AN, they are diabetes mellitus and cerebrovascular diseases, respectively. For the U.S. all-races and white populations, they are cerebrovascular diseases and chronic obstructive pulmonary diseases and allied conditions, respectively. The AI/AN counts have been adjusted for misreporting of race on the state death certificates.

Alcohol abuse is a serious problem among AI/AN elders. The highest alcohol-related age-specific death rate for AI/AN males (172.0 deaths per 100,000 population)

occurs for the 55 to 64 year old age group. This is 5.2 times the peak U.S. all-races male rate (32.8) and 5.7 times the peak U.S. white male rate (30.4), which both occur for the 55 to 64 age group. The rate for AI/AN females in this age group (64.9) is less than half the AI/AN male rate, but is 7.2 times the highest rate for U.S. all-races females (9.0) and 7.5 times that for white females (8.6) (both for ages 55 to 64). Even for persons exceeding 64 years of age, the AI/AN rates are relatively high. The AI/AN rates have been adjusted for misreporting of race on the state death certificates.

Drug abuse is less of a problem for AI/AN elders than that of alcohol abuse. The age-specific drug-related death rates for AI/AN elder females are higher than males except for age group 55 to 64 years. The highest U.S. all-races and white elder drug-related death rates occur in the 85 and over age group. These AI/AN rates have been adjusted for misreporting of race on the state death certificates.

Unintentional injury and homicide deaths are more likely and suicide deaths are less likely among AI/AN elders compared to elders in the U.S. general population. For these causes, AI/AN male elders are at greater risk than AI/AN female elders. For example, AI/AN males of all ages are much more likely to die from unintentional injuries than the corresponding AI/AN female groups; the male death rates for age groups 55 years and over range from 1.3 to 2.7 times as great as the female rates. In comparison to U.S. all-races and white male elders, the AI/AN male death rates are higher for all age groups. AI/AN elders in the age group 65 to 74 years have a homicide death rate that is 3.0 times the rate for U.S. all-races elders and 3.6 times the rate for U.S. white elders in this age group. Within the AI/AN population, males aged 55 to 64 years are 19.5 times as likely to die from homicide than the corresponding group for females. Suicide death rates are relatively low for AI/AN females in age groups 75 and over. U.S. all-races and white females have higher suicide death rates for these age groups than AI/AN females, but their rates are considerably less than the corresponding rates for males in the AI/AN, U.S. all-races, and U.S. white populations. AI/AN male elders, though, are less likely to die from suicide than U.S. all-races and white male elders. These AI/AN rates have been adjusted for misreporting of race on the state death certificates.

The likelihood of dying from diabetes mellitus, diseases of the heart, or cerebrovascular diseases for the most part increases with age for the elder population. AI/AN elders die from diabetes mellitus at greater rates than elders in the U.S. all-races and white populations. However, the gaps decrease with age. AI/AN elders have a higher death rate for heart disease than elders in the U.S. all-races and white populations for the age groups 55 to 74 years. The AI/AN rate is less, however, for the other elder age groups in comparison to these two populations. AI/AN elders die from cerebrovascular diseases at higher rates than elders in the U.S. all-races and white populations for age groups 55 to 84 years. For age group 85+, U.S. all-races and white elders are more likely to die from this cause than AI/AN elders. These AI/AN rates have been adjusted for misreporting of race on the state death certificates.

Malignant neoplasms is a cause of death more prevalent among elders than any other age group. However, AI/AN elders have lower malignant neoplasm death rates than elders in the U.S. all-races and white (except 55 to 64 age group) populations. Within the AI/AN population, male elders are more likely to die from

malignant neoplasms than female elders. The AI/AN rates have been adjusted for misreporting of race on the state death certificates.

The leading site for cancer deaths among AI/AN elders is, by a large margin, trachea, bronchus, and lung. Approximately three times as many AI/AN people in this age group died of this type of cancer than the next leading sites, colon and genital organs, respectively. Elders in the U.S. all-races and white populations have the same top five leading sites, except that the order for colon and genital organs deaths is reversed for U.S. all-races and U.S. white elders. The fourth and fifth leading sites for AI/AN are breast and pancreas. However, elders in the U.S. all-races and white populations have much higher cancer death rates for these sites than AI/AN elders. The next sites, order 6 through 10, vary greatly between AI/AN elders and U.S. all-races and white elders. In contrast to the first five sites, AI/AN elder cancer death rates for AI/AN sites 6, 7 and 8 (liver, stomach, and kidney) exceed the corresponding U.S. all-races and white rates. The AI/AN rate for sites 9 and 10 (multiple myeloma and Lekemia) are less than the rates for U.S. all-races and white (except for multiple myeloma). The AI/AN counts have been adjusted for misreporting of race on the state death certificates.

The likelihood of a man dying from prostate cancer increases with age. The death rates become pronounced at age 55. The AI/AN rate is somewhat higher than the rates in the U.S. all-races and white populations for the age group 55 to 64 years. However for the older age groups, the AI/AN rate ranges from 9 percent to 32 percent less than the comparable rates in these two populations. The AI/AN rates have been adjusted for misreporting of race on the state death certificates.

From the age of 15, the older a person is, the more likely that person will die as a result of pneumonia and influenza. AI/AN elders have higher pneumonia and influenza death rates than elders in the U.S. all-races and white populations. The age-adjusted Alzheimer's disease AI/AN deaths rate of 0.3 deaths per 100,000 population for the 1979-1981 three-year period increased to 1.3 deaths per 100,000 population for 1996-1998. This is an increase of 333 percent.

AI/AN elders, as is true for elders in the U.S. general population, are relatively high users of health resources. For example, AI/AN over 64 years of age comprise 5.9 percent of the IHS user population but consume considerably higher percentages of IHS health services, i.e., 14.7 percent of the ambulatory medical clinical impressions, 17.4 percent of the inpatient discharges, and 23.8 percent of the inpatient days. However, AI/AN elders receive health services at lower rates than their counterparts in the general population. Again looking at persons aged 65 and older, the IHS hospital discharge rate (184.4 discharges per 1,000 population) is less than half of the U.S. rate (359.6).

In FY 2001, 17.3 percent of public health nursing visits pertained to children under 5 years of age and 19.6 percent pertained to adults over the age of 64. The two leading detailed activities for CHR contacts in FY 1998 were case management (22 percent) and health education (20 percent). In FY 1993, the top two were reversed order health education (23 percent) and case management (17 percent).

SOURCES AND LIMITATIONS OF DATA

POPULATION STATISTICS

The IHS service population consists of AI/AN identified to be eligible for IHS services. IHS service population estimates are based on official U.S. Census Bureau county data. The Census Bureau enumerates those individuals who identify themselves as being American Indian, Eskimo or Aleut. The IHS service population is estimated by counting those American Indians, Eskimos, and Aleuts (as identified during the Census) who reside in the geographic areas in which IHS has responsibilities ("on or near" reservations, i.e., contract health service delivery areas [CHSDAs]). These people may or may not use IHS services.

IHS user population estimates are based on data from the IHS Patient Registration System. Patients who receive direct or contract health services from IHS or Tribally-operated programs are registered in the Patient Registration System. Those registered AI/AN patients that had at least one direct or contract inpatient stay, ambulatory medical visit, or dental visit during the last three years are defined as users. IHS user population figures are used for calculating IHS patient care rates. In contrast, IHS service population figures are used in calculating AI/AN vital event rates since state birth and death certificates do not provide information on use of IHS services.

IHS service populations between census years (e.g., 1980 and 1990) are estimated by a smoothing technique in order to show a gradual transition between census years. IHS service populations beyond the latest census year (1990) are projected through linear regression techniques, using the most current ten years of AI/AN birth and death data provided by the National Center for Health Statistics (NCHS). The natural change (estimated number of births minus estimated number of deaths) is applied to the latest census enumeration.

The social and economic data contained in this publication are from the 1990 census. They reflect the characteristics of persons that self-identified as American Indian, Eskimo or Aleut during the census.

VITAL EVENT STATISTICS

AI/AN vital event statistics are derived from data provided annually to the IHS by NCHS. Vital event statistics for the U.S. population were derived from data reported in various NCHS publications, as well as from some unpublished data from NCHS. NCHS obtains birth and death records for all U.S. residents from the state health departments, based on information reported on official state birth and death certificates. The records NCHS provides IHS contain the same basic demographic items as the vital event records maintained by NCHS for all U.S. residents, but with names, addresses, and record identification numbers deleted. It should be noted that Tribal identity is not recorded on these records. Tabulations of vital events for this publication are by place of residence.

The natality and mortality data are only as accurate as the reporting by the states to NCHS.[1] NCHS does perform numerous edit checks, applies verification methods, and imputes values for non-responses.

Misreporting of Race on State Death Certificates

Misreporting of AI/AN race on state death certificates occurs, especially in areas distant from traditional AI/AN reservations.[2] In order to determine the degree and scope of the misreporting, IHS conducted a study utilizing the National Death Index (NDI) maintained by the NCHS. The study involved matching IHS patient records of those

[1] Arias E, Anderson RN, Hsiang-Ching K, Murphy SL, Kochanek KD. Deaths: Final Data for 2001. National Vital Statistics Reports; Vol.52 No. 3. Hyattsville, MD: National Center for Health Statistics. 2003.

[2] IHS, Division of Program Statistics. Adjusting for Miscoding of Indian Race on State Death Certificates. November 1996.

patients who could have died during 1986 through 1988 with all death records of U.S. residents for 1986 through 1988 as contained on the NDI. The study revealed that on 10.9 percent of the matched IHS-NDI records, the race reported for the decedent was other than AI/AN. The percentage of records with inconsistent classification of race ranged from 1.2 percent in the Navajo Area to 28.0 and 30.4 percent in the Oklahoma and California Areas, respectively.

The results of the NDI study provide sufficient numbers to calculate adjustments for each IHS Area, IHS overall, and selected age groups. In addition to these adjustments based on the study findings, IHS assumed the following; a) the results from 1986-88 apply to other years, b) IHS age-group adjustments applied also to each Area, and c) the Area adjustments applied to the causes of death used in this publication (i.e. if an Area's total deaths needed to be increased by ten percent, than the deaths for each cause of death would also increase by this same rate). These assumptions cannot be statistically supported by the results of the study. However, IHS felt that it was necessary to adjust all of the death rates in this publication to provide a meaningful and comprehensive look at health status.

These NDI adjustments were used for the first time in the 1997 edition of this publication. Both unadjusted and adjusted information is shown, as applicable. The adjustments were applied to the results obtained from using an unadjusted death file. In the 1997 edition, only the latest three years (1992-94 at that time) of death data were adjusted based on the study findings. Starting with this edition, the adjustments are extended to data years through 1997.

IHS has more specific adjustment factors for the age group under 1 year. These are derived from the linked birth/infant death data sets produced by the NCHS. IHS now has sufficient years of this data set (1983-91 and 1995-96) to calculate adjusted infant mortality rates. In this edition (as was done for the first time in the 1997 edition with 1992-94 data), unadjusted and adjusted infant mortality rates will be shown for data years 1987 through 1998. It is reasonably assumed that data years for which linked data sets were not produced (NCHS did not produce linked data sets prior to data year 1983 and for data years 1992-94) may be adjusted based on the results from other linked data sets. These adjustments based on the linked data sets take precedent over the NDI adjustments for the under 1 year age group, described above.

The AI/AN vital event statistics in this publication pertain to only AI/AN people residing in the IHS service area. Editions of this publication before 1992 showed vital event statistics calculated on a Reservation State basis. Therefore, data were included for AI/AN residing outside the geographic areas for which IHS has responsibility. This was done in order to show trends starting in FY 1955, to correspond with the inception of the IHS program. Prior to 1972, only total Reservation State data are available.

Now that there are sufficient vital event data available for the IHS service area to show meaningful trends, this publication shows vital event statistics for the IHS service population, starting with data for calendar year 1972. IHS service area data are more indicative of the health status of the AI/AN that IHS serves. Reservation State vital event rates tend to be lower in value (i.e., lower birth rates, lower death rates) than IHS service area rates. However, the

vital event tables in this publication will still include the 1955 Reservation State figure as an historical bench mark.

The AI/AN population is considerably younger than the U.S. all-races population. Therefore, the death rates presented in this publication have been age-adjusted, where applicable, so that appropriate comparisons can be made between these population groups. Two exceptions are the information presented for leading causes of death and leading cancer sites. In order to determine the leading causes of death or cancer sites for a population group, it is necessary to rank without any adjustment for age. However, it should be kept in mind that the ranking of causes of death or cancer sites for a population group is affected by its age composition.

Beginning with the 1996 edition, the leading causes of death are shown for more detailed age groups in support of the IHS Director's initiatives on youth and elder care. In particular, the 1 to 14 year age group has been split into 1 to 4 and 5 to 14, and the 45 to 64 year age group has been split into 45 to 54 and 55 to 64.

Age-Adjustment

The age-adjusted death rates presented in this publication were computed by the direct method, that is, by applying the age-specific death rate for a given cause of death to the standard population distributed by age. The total population as enumerated in 1940 was selected as the standard since this is the standard used by NCHS. The rates for the total population and for each race-sex group were adjusted separately, by using the same standard population. The age-adjusted rates were based on ten-year age groups. It is important not to compare age-adjusted death rates with crude rates.

ICD-9-Codes

Prior to the 1993 edition of this publication, alcoholism deaths were defined through the use of three ICD-9 cause of death code groups; 291—alcoholic psychoses; 303—alcohol dependence syndrome and; 571.0-571.3—alcoholic liver disease. Various IHS Area statisticians and epidemiologists believed this definition to be incomplete and suggested that it be expanded to include five additional ICD-9 code categories. These additional categories were used for the first time in the 1993 edition. They include; 305.0—alcohol overdose; 425.5—alcoholic cardiomyopathy; 535.3—alcoholic gastritis; 790.3—elevated blood-alcohol level; and E860.0, E860.1—accidental poisoning by alcohol, not elsewhere classified. This expanded definition results in about a 25 percent increase in the number of alcoholism deaths identified in comparison to the previous three-group definition. NCHS is now publishing alcoholism deaths with a definition that includes codes that IHS had not used, i.e., 357.5—alcoholic polyneuropathy and all of E860 (not just E860.0 and E860.1)—accidental poisoning by alcohol. To be consistent with NCHS, these additional codes are now used by IHS starting with the 1996 edition. The NCHS definition includes all of the code groups previously used by IHS plus these new codes. The NCHS definition of alcoholism deaths is now used in all IHS publications, including *Regional Differences in Indian Health.*

NCHS is also now publishing drug-related deaths with a definition that includes codes that IHS had not used, i.e., 292—drug psychoses and E962.0—assaults from poisoning by drugs and medicaments. To be consistent with NCHS, this additional code was used by IHS for the first time in the 1996 edition. The NCHS definition includes all of the code

groups previously used by IHS plus these two codes. This NCHS definition of drug-related deaths is now used in all IHS publications, including *Regional Differences in Indian Health.*

Injury and poisoning deaths are shown for various sub-groups in this publication, e.g., accidents, homicides, suicides. A new grouping, "injury by firearms," was added starting with the 1996 edition because of its significance in the AI/AN community. It includes deaths with the following ICD-9 codes; E922—accident caused by firearm missile; E955.0-E955.4—suicide and self-inflicted injury by firearms; E965.0-E965.4 and E970—assault by firearms and legal intervention; E985.0-E985.4—injury by firearms, undetermined whether accidentally or purposely inflicted. Injury by firearm causes exclude explosives and other causes indirectly related to firearms.

PATIENT CARE STATISTICS

Patient care statistics are derived from IHS reporting systems. There are four main patient care reporting systems. The Monthly Inpatient Services Report is a patient census report that is prepared by each IHS hospital. It indicates the number of discharges and days by type of service (e.g., adult, pediatric, obstetric, newborn), and is used for the direct inpatient workload statistics. The Inpatient Care System is the source of IHS hospital inpatient data pertaining to various patient characteristics (age, sex, principal diagnoses, other diagnoses, community of residence, etc.). The data are collected daily, one record per discharge. The Contract Care System is the source of similar contract hospital inpatient data.

The Ambulatory Patient Care System is the source of data pertaining to the number of ambulatory medical visits at IHS facilities by various patient characteristics (age, sex, clinical impression, community of residence, etc.). The data are collected daily, one record per ambulatory medical visit. The Contract Care System is the source of similar contract ambulatory medical visit data.

SOURCES OF COPIES AND ADDITIONAL INFORMATION

Additional AI/AN health status information can be obtained from the IHS Division of Program Statistics. Specific responsibilities are as follows:

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This publication, other IHS statistical publications, and links to IHS data files are available on the Division of Program Statistics Web Site at:

http://www.ihs.gov/NonMedicalPrograms/IHS_Stats/

CHARTS & TABLES

CHART 1 POPULATION BY AGE, 1990 CENSUS

The proportion of elders (i.e., age 55 and over) in the AI/AN population is considerably smaller than the corresponding proportion in the U.S. general population. According to the 1990 census, the elderly comprise 11 percent of the AI/AN population, but 21 percent of the U.S. all-races population and 23 percent of the U.S. white population. The age group 75 years and over is 2 percent of the AI/AN population and 5 and 6 percent of the U.S. all-races and white populations, respectively.

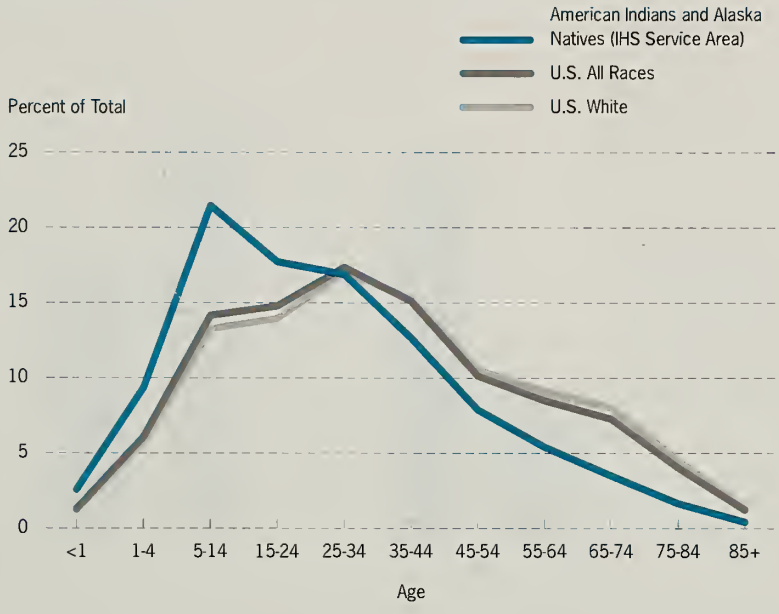

TABLE 1 PERCENT AGE DISTRIBUTION

American Indians and Alaska Natives, IHS Service Area, and U.S. All-Races and White Populations, 1990 Census

Age Group	American Indian & Alaska Native[1]	U.S. All Races	U.S. White
All Ages	100.000	100.000	100.000
Under 1 year	2.616	1.294	1.204
1-4 years	9.390	6.086	5.631
5-9 years	11.239	7.277	6.819
10-14 years	10.251	6.881	6.437
15-19 years	9.470	7.138	6.682
20-24 years	8.286	7.647	7.273
25-29 years	8.729	8.569	8.332
30-34 years	8.198	8.791	8.690
35-39 years	6.971	8.027	8.053
40-44 years	5.740	7.083	7.265
45-49 years	4.353	5.578	5.802
50-54 years	3.577	4.564	4.760
55-59 years	2.965	4.235	4.491
60-64 years	2.485	4.268	4.613
65-69 years	2.077	4.066	4.457
70-74 years	1.466	3.215	3.569
75-79 years	1.090	2.461	2.747
80-84 years	0.619	1.582	1.779
55 years & over	11.180	21.065	23.052
65 years & over	5.730	12.562	13.948
75 years & over	2.187	5.281	5.922
85 years & over	0.478	1.238	1.396
Median Age	24.2 years	32.9 years	34.4 years

[1] Based upon data from the 1990 census modified age, race, and sex file, and current IHS service area boundaries. Percentage point distributions were adjusted for error due to rounding. More recent population estimates for the AI/AN population by age and sex are unavailable at the county level. As a result, IHS service area estimates by age and sex, which need to be based on county level data, could not be prepared.

CHART 2 TREND IN NUMBER OF ELDERS IN IHS SERVICE POPULATION

In FY 1980, there were about 93,000 elders in the IHS service population. That number has risen to about 135,000 in FY 1990. By the year 2005, the number of elders is about 185,000. The largest age group within the elder population is for persons 55 to 59 years of age. They currently consist of about 49,000 individuals.

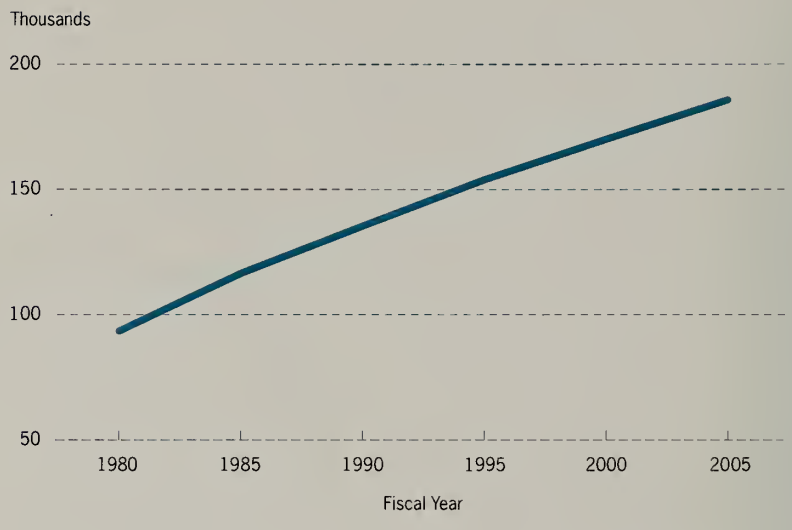

TABLE 2 TREND IN NUMBER OF ELDERS IN IHS SERVICE POPULATION

Age Group	1980	1985	1990	1995	2000	2005
All Ages	852,850	1,038,782	1,207,236	1,372,620	1,517,054	1,657,068
All Elder	93,215	116,260	135,114	153,624	169,789	185,459
55-59 years	25,593	30,789	35,782	40,684	44,965	49,115
60-64 years	19,923	25,814	30,000	34,110	37,699	41,178
65-69 years	17,800	21,617	25,123	28,564	31,570	34,484
70-74 Years	12,590	15,239	17,710	20,136	22,255	24,309
75-79 years	8,920	11,364	13,207	15,016	16,597	18,128
80-84 years	4,537	6,451	7,497	8,524	9,421	10,290
85 years +	3,852	4,986	5,795	6,589	7,282	7,954

CHART 3 INCOME STATUS IN 1989, 1990 CENSUS

AI/AN elders have a lower economic status than elders in the U.S. general population. According to the 1990 census, the median household income in 1989 for AI/AN residing in the current Reservation States was $19,897, for U.S. all-races it was $30,056, and for U.S. whites it was $31,435. During this period, 31.6 percent of AI/AN of all ages live below the poverty level in contrast to 13.1 and 9.8 percent for the U.S. all-races and white populations, respectively. For 65 to 74 year old persons, the corresponding percentages are 26.9, 10.4, and 8.4. For 75 years and older, the corresponding percentages are 33.3, 16.5, and 14.6.

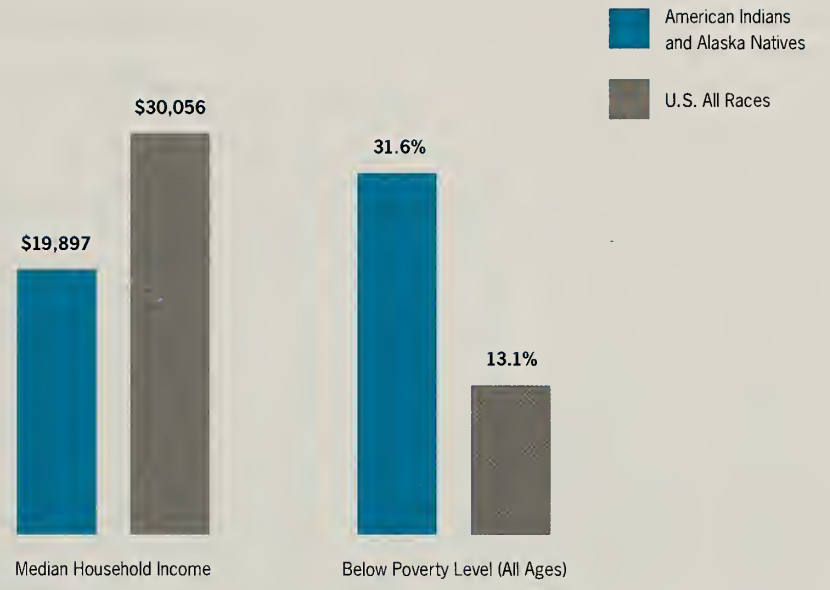

TABLE 3 SELECTED ECONOMIC PROFILES FOR THE UNITED STATES, 1990 CENSUS

	American Indian and Alaska Native	All Races	White	Black	Asian and Pacific Islander	Hispanic
Educational Attainment						
(Persons 25 years and older)						
Percent less than 9th grade	14.1	10.4	8.9	13.8	12.9	30.7
Percent 9th to 12th grade, no diploma	20.6	14.4	13.1	23.2	9.5	19.5
Percent high school graduate or higher	65.3	75.2	77.9	63.1	77.5	49.8
Percent bachelor's degree or higher	8.9	20.3	21.5	11.4	36.6	9.2
Employment Status by Sex						
(Persons 16 years and older)						
Percent unemployed, males	16.2	6.4	5.3	13.7	5.1	9.8
Percent unemployed, females	13.4	6.2	5.0	12.2	5.5	11.2
Household Income in 1989						
Median household income	$ 19,897	$ 30,056	$ 31,435	$ 19,758	$ 36,784	$ 24,156
Percent Below the Poverty Level by Age						
All ages	31.6	13.1	9.8	29.5	14.1	25.3
Under 5 years	43.1	20.1	13.8	44.0	17.5	33.4
5 years	41.6	19.7	13.6	42.8	18.0	33.9
6 to 11 years	37.7	18.3	12.5	39.8	17.3	32.6
12 to 17 years	33.1	16.3	11.0	35.5	16.3	30.3
18 to 64 years	27.7	11.0	8.5	23.4	13.0	21.3
65 to 74 years	26.9	10.4	8.4	28.6	11.3	21.9
75 years and older	33.3	16.5	14.6	37.3	13.5	27.8

NOTE: AI/AN data are for residents of the 35 Reservation States. (South Carolina was added as a Reservation State in FY 1994. Indiana was added as a Reservation State in 1995.)

SOURCE: U.S. Bureau of the Census, Minority Economic Profiles, July 24, 1992, Tables CPH-L-92, 93, 94, and unpublished data from the U.S. Bureau of the Census.

CHART 4 DEATHS BY AGE AND RACE

The percentage for AI/AN elders for age groups 55 and over was 60.4 which is lower than the U.S. all-races (84.7), U.S. whites (87.0), and U.S. Black (70.2) populations. The highest percentage (18.6) of AI/AN elder deaths pertains to age group 65 to 74 years. These AI/AN counts have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

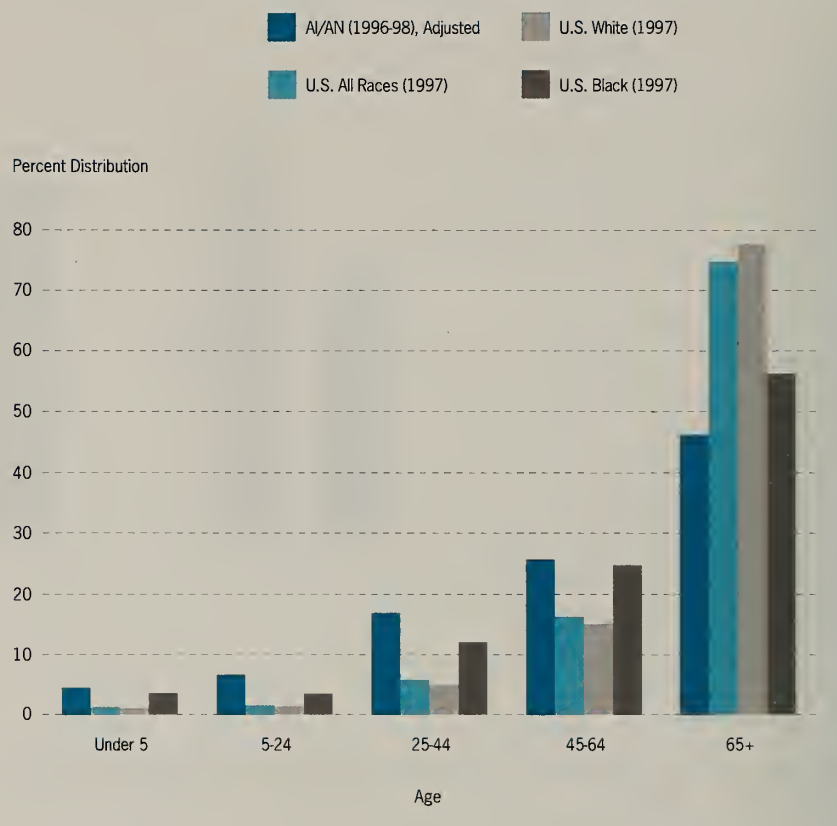

TABLE 4 NUMBER AND PERCENT DISTRIBUTION OF DEATHS BY AGE AND SEX

American Indians and Alaska Natives, IHS Service Area, 1996-1998, and Selected U.S. Populations, 1997 *(Rate per 100,000 Population)*

American Indian and Alaska Native

	Both Sexes				Male				Female			
	Number		Percent		Number		Percent		Number		Percent	
Age Group	Unadjusted	Adjusted[1]	Unadjusted	Adjusted[1]	Unadjusted	Adjusted[1]	Unadjusted	Adjusted[1]	Unadjusted	Adjusted[1]	Unadjusted	Adjusted[1]
All Ages	23,508	26,964	100.0	100.0	13,155	15,032	100.0	100.0	10,353	11,932	100.0	100.0
Under 1	780	916	3.3	3.4	438	514	3.3	3.4	342	402	3.3	3.4
1 to 4	251	315	1.1	1.2	126	160	1.0	1.1	125	155	1.2	1.3
5 to 14	291	326	1.2	1.2	175	194	1.3	1.3	116	132	1.1	1.1
15 to 24	1,206	1,474	5.1	5.5	906	1,052	6.9	7.0	300	422	2.9	3.5
25 to 34	1,596	1,919	6.8	7.1	1,115	1,290	8.5	8.6	481	629	4.6	5.3
35 to 44	2,310	2,637	9.8	9.8	1,498	1,675	11.4	11.1	812	962	7.8	8.1
45 to 54	2,704	3,090	11.5	11.5	1,620	1,828	12.3	12.2	1,084	1,262	10.5	10.6
55 to 64	3,295	3,834	14.0	14.2	1,915	2,210	14.6	14.7	1,380	1,624	13.3	13.6
65 to 74	4,356	5,023	18.5	18.6	2,358	2,718	17.9	18.1	1,998	2,305	19.3	19.3
75 to 84	3,973	4,577	16.9	17.0	1,923	2,252	14.6	15.0	2,050	2,325	19.8	19.5
85 and over	2,740	2,847	11.7	10.6	1076	1134	8.2	7.5	1,664	1,713	16.1	14.4
Age Not Stated	6	6	0.0	0.0	5	5	0.0	0.0	1	1	0.0	0.0

United States

Age Group	All Races	White	Black
Number of Deaths, All Ages	2,314,245	1,996,393	276,520
Percent Distribution, All Ages	100.0	100.0	100.0
Under 1	1.2	0.9	3.1
1 to 4	0.2	0.2	0.5
5 to 14	0.3	0.3	0.7
15 to 24	1.4	1.1	2.8
25 to 34	2.0	1.6	4.2
35 to 44	3.9	3.3	7.8
45 to 54	6.3	5.6	10.7
55 to 64	10.0	9.4	14.0
65 to 74	20.1	20.0	20.2
75 to 84	28.9	30.3	20.8
85 and over	25.7	27.3	15.2
Age Not Stated	0.0	0.0	0.0

0.0 Quantity more than zero but less than 0.05.

[1] Adjusted — specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

CHART 5 SELECTED AGE-ADJUSTED DEATH RATES, RATIO OF AMERICAN INDIANS AND ALASKA NATIVES (1996-98) TO U.S. ALL-RACES (1997)

The AI/AN age-adjusted death rates for all causes of death for years 1996-1998 is 1.5 times the rate for U.S. all-races (1997); tuberculosis (5.0 times), chronic liver disease and cirrhosis (4.9 times), diabetes (3.9 times), and unintentional injuries (3.1). AI/AN rates were below those of the U.S. all-races for Alzheimer's disease (0.5 times), HIV infection (0.6 times), chronic obstructive pulmonary diseases (0.9 times), and malignant neoplasms (1.0 times). These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on the state death certificates.

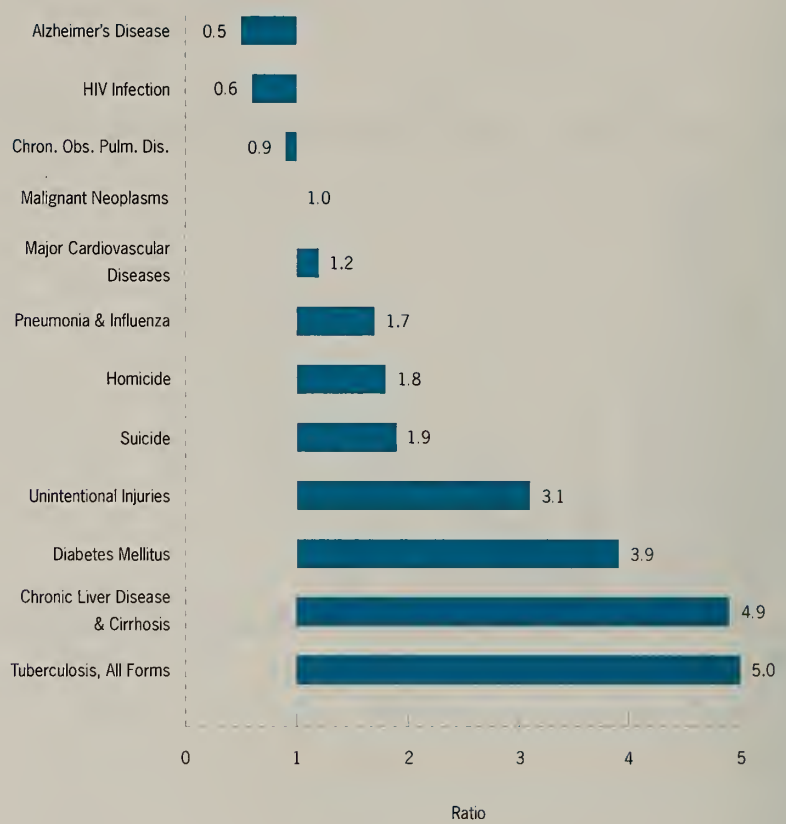

TABLE 5 AGE-ADJUSTED DEATH RATES

American Indians and Alaska Natives, IHS Service Area, 1996-1998, and U.S. All-Races and White Populations, 1997
(Rate per 100,000 Population)

	American Indian and Alaska Native		U.S. All Races	U.S. White	Ratio of American Indian and Alaska Native[1] to:	
Cause of Death	Rate Unadjusted	Rate Adjusted[1]	Rate	Rate	U.S. All Races	U.S. White
All Causes	620.7	715.2	479.1	456.5	1.5	1.6
Major cardiovascular diseases	168.4	195.9	166.1	159.1	1.2	1.2
Diseases of the heart	132.9	157.1	130.5	125.9	1.2	1.2
Cerebrovascular diseases	26.7	29.5	25.9	24.0	1.1	1.2
Atherosclerosis	2.4	2.5	2.1	2.1	1.2	1.2
Hypertension	2.4	2.5	2.3	1.9	1.1	1.3
Unintentional injuries	82.2	94.7	30.1	29.6	3.1	3.2
Motor vehicle	46.6	54.8	15.9	15.9	3.4	3.4
Other unintentional injuries	35.6	39.9	14.2	13.7	2.8	2.9
Malignant neoplasms	107.5	124.0	125.6	122.9	1.0	1.0
Chronic liver disease and cirrhosis	31.7	36.4	7.4	7.3	4.9	5.0
Diabetes mellitus	44.4	52.8	13.5	11.9	3.9	4.4
Pneumonia and influenza	19.8	21.5	12.9	12.4	1.7	1.7
Suicide	17.6	20.2	10.6	11.3	1.9	1.8
Homicide	12.7	14.5	8.0	4.7	1.8	3.1
Chronic obstructive pulmonary diseases and allied conditions	17.5	19.7	21.1	21.7	0.9	0.9
Tuberculosis, all forms	1.5	1.5	0.3	0.2	5.0	7.5
Human immunodeficiency virus (HIV) infection	2.9	3.3	5.8	3.3	0.6	1.0
Alzheimer's disease	1.0	1.3	2.7	2.9	0.5	0.4

[1] Adjusted to compensate for misreporting of AI/AN race on state death certificates.

SOURCE: U.S. Mortality Rates: Monthly Vital Statistics Report, NCHS, DHHS, Advance Report of Final Mortality Statistics, 1997, Vol. 47, No. 19, June 30, 1999, Table 14.

CHART 6 AGE-SPECIFIC DEATH RATES, RATIO OF AMERICAN INDIANS AND ALASKA NATIVES (1996-1998) TO U.S. ALL-RACES (1997)

AI/AN age-specific death rates are greater than those for the U.S. all-races and white populations for all age groups except 85 years and over. For the 55 to 64 year age group, the AI/AN rate is 1.5 times the U.S. all-races and 1.6 times the white rate. The AI/AN rate is 1.3 times the U.S. all-races rate and 1.4 times the white rate for persons 65 to 74 years old. The AI/AN rate is 1.1 times the rate of U.S. all-races and white for the 75 to 84 year old group. The AI/AN rate is 1.0 times the rates of the Black population for 85 years and older. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

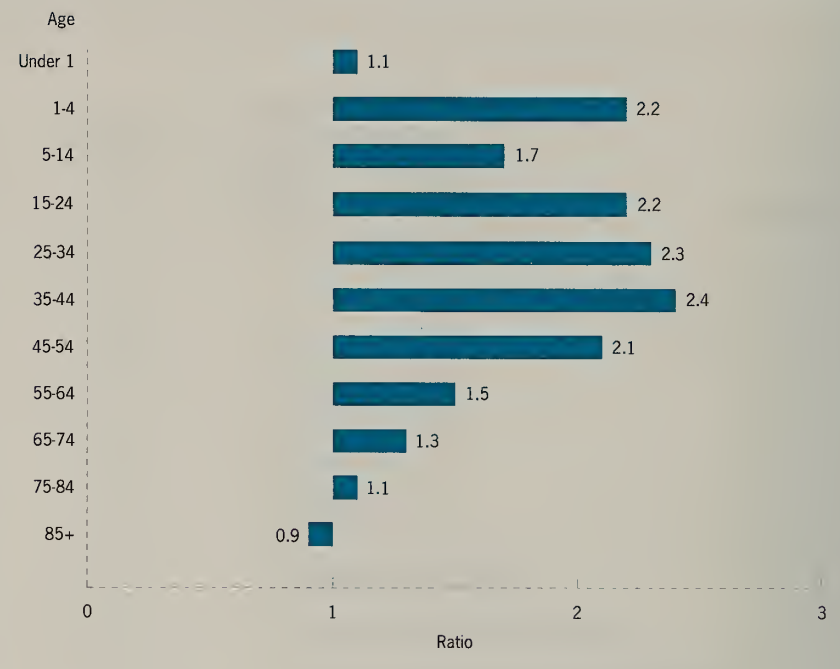

TABLE 6 AGE-SPECIFIC DEATH RATES

American Indians and Alaska Natives, IHS Service Area, 1996-1998, and Selected U.S. Populations, 1997 *(Rate per 100,000 Population)*

	American Indian and Alaska Native				U.S. Rate			Ratio of American Indian and Alaska Native[1] to:	
Age Group	Number Unadjusted	Number Adjusted[1]	Rate Unadjusted	Rate Adjusted[1]	All Races	White	Black	U.S. All Races	U.S. White
Under 1	780	916	693.3	814.2	738.7	613.7	1,529.8	1.1	1.3
1-4	251	315	62.2	78.1	35.8	31.6	59.2	2.2	2.5
5-14	291	326	31.5	35.3	20.8	18.9	31.1	1.7	1.9
15-24	1,206	1,474	158.2	193.4	86.2	77.5	139.2	2.2	2.5
25-34	1,596	1,919	219.6	264.0	115.0	100.6	217.1	2.3	2.6
35-44	2,310	2,637	423.5	483.5	203.2	178.4	397.9	2.4	2.7
45-54	2,704	3,090	795.3	908.9	430.8	389.3	827.8	2.1	2.3
55-64	3,295	3,834	1,410.9	1,641.7	1,063.6	1,000.5	1,746.6	1.5	1.6
65-74	4,356	5,023	2,874.0	3,314.0	2,509.8	2,451.2	3,392.4	1.3	1.4
75-84	3,973	4,577	5,436.6	6,263.1	5,728.2	5,699.0	6,640.3	1.1	1.1
85+	2,740	2,847	13,418.9	13,942.9	15,345.2	15,559.7	14,398.7	0.9	0.9

[1] Adjusted — specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

CHART 7 LIFE EXPECTANCY AT BIRTH

Life expectancy at birth for AI/AN for the three-year period of 1972-1974 was 63.6 years (unadjusted). By 1996-1998 life expectancy increased to 70.6 years (adjusted); 5.9 years less than the U.S. all-races life expectancy of 76.5 years for 1997. The AI/AN life expectancy of 70.6 years (adjusted) is 6.6 years less then for the U.S. whites life expectancy of 77.2 years for 1997. The AI/AN rates have been adjusted for misreporting of race on the state death certificates.

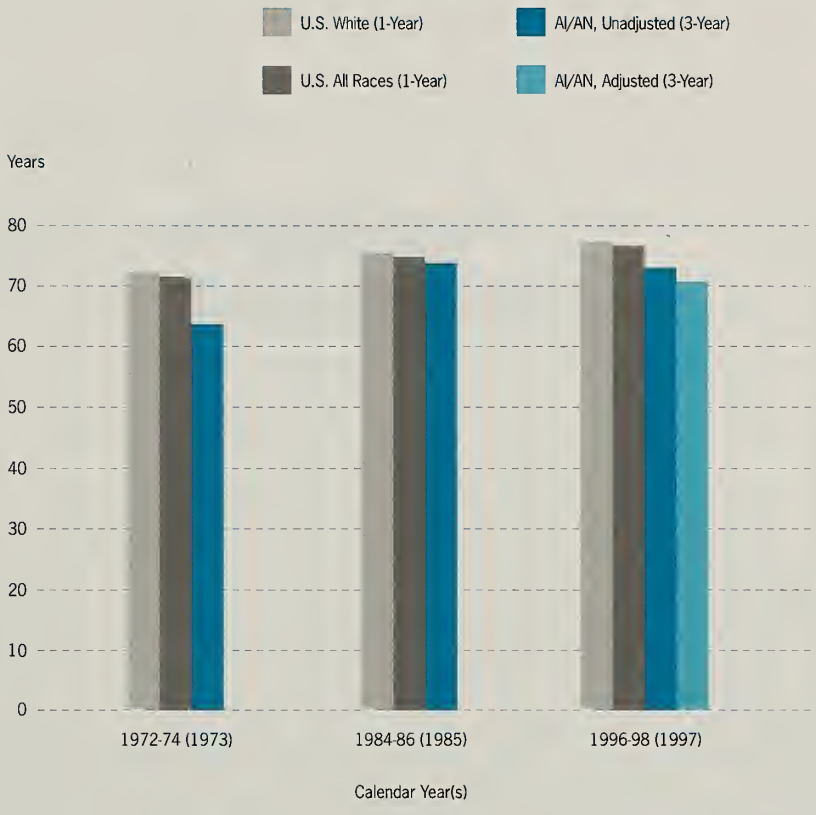

TABLE 7 OVERALL MEASURES OF INDIAN HEALTH

IHS Service Area Population Compared with the U.S. All-Races and U.S. White Populations

	Life Expectancy At Birth (Years)		Years of Potential Life Lost (Rate per 1,000 Population[4])		Age-Adjusted Death Rate (per 100,000 Population)	
	Unadjusted	Adjusted[1]	Unadjusted	Adjusted[1]	Unadjusted	Adjusted[1]
IHS Service Area						
1996-1998	72.9	70.6	75.3[2]	88.6[2]	620.7	715.2
1984-1986	73.7	—	93.6[3]	108.5[3]	589.3	675.6
1972-1974	63.6	—	173.7[3]	191.3[3]	897.4	1,005.4
U.S. All Races						
1997	76.5		48.4		479.1	
1985	74.7		57.6		548.9	
1973	71.4		78.9		692.9	
U.S. White						
1997	77.2		42.2		456.5	
1985	75.3		51.9		524.9	
1973	72.2		70.8		659.3	
Ratio: IHS to U.S. All Races						
1996-1998 (1997)	0.95	0.92	1.56	1.83	1.30	1.49
1984-1986 (1985)	0.99	—	1.63	1.88	1.07	1.23
1972-1974 (1973)	0.89	—	2.20	2.42	1.30	1.45
Ratio: IHS to U.S. White						
1996-1998 (1997)	0.94	0.91	1.78	2.10	1.36	1.57
1984-1986 (1985)	0.98	—	1.80	2.09	1.12	1.29
1972-1974 (1973)	0.88	—	2.45	2.70	1.36	1.52

— Data not available. Adjusted data for Life Expectancy for the IHS Service Area population is unavailable for 1972-1974 and 1984-1986.

[1] Adjusted — specifies rate or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

[2] Years of Potential Life Lost (YPLL) is a mortality indicator which measures the burden of premature deaths. YPLL is presented for persons under 65 years of age because the average **life expectancy** for AI/AN is over 65 years. The number of deaths for each age group is multiplied by the years of life lost, calculated as the difference between age 65 years and the midpoint of the age group. This calculation was performed through the use of age groups under one, one to four, and **five-year** age groups through 55 to 64 years. Years of potential life lost is derived by summing years of life lost over all age groups.

[3] Years of Potential Life Lost (YPLL) is a mortality indicator which measures the burden of premature deaths. YPLL is presented for persons under 65 years of age because the average **life expectancy** for AI/AN is over 65 years. The number of deaths for each age group is multiplied by the years of life lost, calculated as the difference between age 65 years and the midpoint of the age group. This calculation was performed through the use of age groups under one, one to four, and **10-year** age groups through 55 to 64 years. Years of potential life lost is derived by summing years of life lost over all age groups.

[4] Rate per 1,000 population under 65 years of age.

CHART 8 DEATH RATES, LEADING CAUSES: AGES 55 TO 64 YEARS

The leading causes of death for the age group 55 to 64 years vary considerably between the AI/AN population and the U.S. general population. For AI/AN, the top two causes are diseases of the heart and malignant neoplasms; the order is reversed for U.S. all-races and whites. The third and fourth leading causes for AI/AN are diabetes mellitus and unintentional injuries, while for U.S. all-races and whites, they are chronic obstructive pulmonary diseases and cerebrovascular diseases. The AI/AN counts have been adjusted for misreporting of race on the state death certificates.

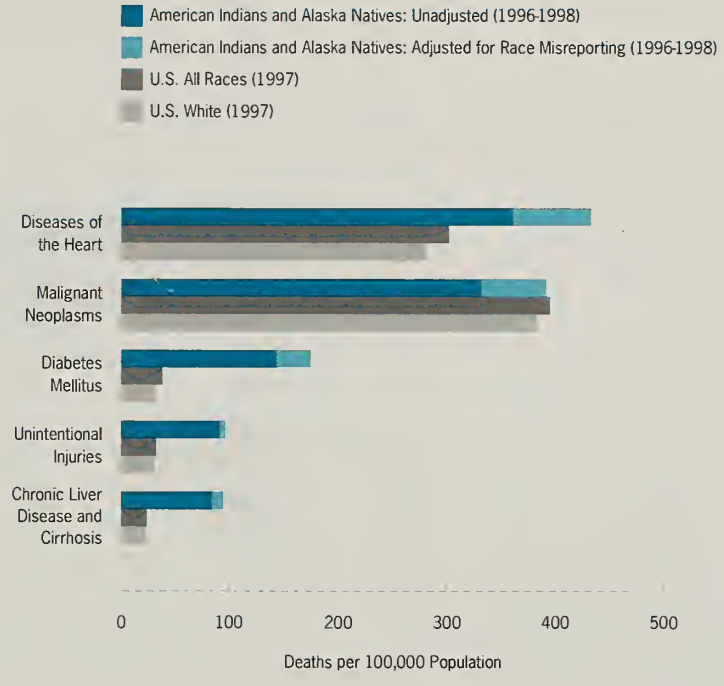

TABLE 8 TEN LEADING CAUSES OF DEATH FOR DECEDENTS 55 TO 64 YEARS OF AGE

American Indians and Alaska Natives, IHS Service Area, 1996-1998, and U.S. All-Races and White Populations, 1997
(Rate per 100,000 Population)

	American Indian and Alaska Native				U.S. All Races	U.S. White	Ratio of American Indian and Alaska Native[1] to:	
Cause of Death	Number Unadjusted	Number Adjusted[1]	Rate Unadjusted	Rate Adjusted[1]	Rate	Rate	U.S. All Races	U.S. White
All Causes	3,295	3,834	1,410.9	1,641.7	1,063.6	1,000.5	1.5	1.6
Diseases of the heart	844	1,019	361.4	436.3	302.4	282.3	1.4	1.5
Malignant neoplasms	776	912	332.3	390.5	395.7	384.3	1.0	1.0
Diabetes mellitus	335	408	143.4	174.7	38.4	32.1	4.5	5.4
Unintentional injuries	212	229	90.8	98.1	32.6	31.0	3.0	3.2
Motor vehicle	100	109	42.8	46.7	15.3	14.8	3.1	3.2
Other unintentional injuries	112	120	48.0	51.4	17.3	16.2	3.0	3.2
Chronic liver disease and cirrhosis	196	225	83.9	96.3	24.1	23.6	4.0	4.1
Cerebrovascular diseases	131	142	56.1	60.8	44.4	36.9	1.4	1.6
Chronic obstructive pulmonary diseases and allied conditions	91	106	39.0	45.4	46.3	47.8	1.0	0.9
Pneumonia and influenza	64	68	27.4	29.1	17.2	15.6	1.7	1.9
Nephritis, nephrotic syndrome, and nephrosis	46	50	19.7	21.4	8.4	6.4	2.5	3.3
Septicemia	38	40	16.3	17.1	8.5	6.8	2.0	2.5
All other causes	562	635						

[1] Adjusted — specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

NOTE: Causes of death listed are based on the order of adjusted number of deaths.

CHART 9 DEATH RATES, LEADING CAUSES: 65 YEARS OF AGE AND OLDER

AI/AN aged 65 and over tend to die of the same causes, although at different rates, as this age group in the U.S. general population. The top two leading causes of death are the same for AI/AN, U.S. all-races, and U.S. whites 65 years and older – diseases of the heart and malignant neoplasms. The third and fourth leading cause differs among these groups. For AI/AN, they are diabetes mellitus and cerebrovascular diseases, respectively. For the U.S. all-races and white populations, they are cerebrovascular diseases and chronic obstructive pulmonary diseases and allied conditions, respectively. The AI/AN counts have been adjusted for misreporting of race on the state death certificates.

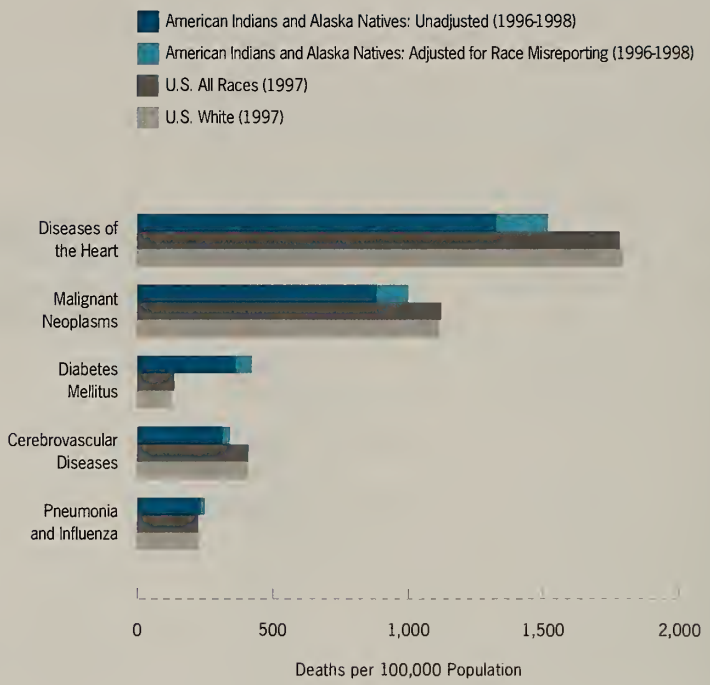

TABLE 9 TEN LEADING CAUSES OF DEATH FOR DECEDENTS 65 YEARS OF AGE AND OLDER

American Indians and Alaska Natives, IHS Service Area, 1996-1998, and U.S. All-Races and White Populations, 1997
(Rate per 100,000 Population)

	American Indian and Alaska Native				U.S. All Races	U.S. White	Ratio of American Indian and Alaska Native[1] to:	
Cause of Death	Number Unadjusted	Number Adjusted[1]	Rate Unadjusted	Rate Adjusted[1]	Rate	Rate	U.S. All Races	U.S. White
All Causes	11,069	12,447	4,516.7	5,079.0	5,073.6	5,093.3	1.0	1.0
Diseases of the heart	3,247	3,760	1,324.9	1,534.3	1,781.1	1,795.1	0.9	0.9
Malignant neoplasms	2,165	2,459	883.4	1,003.4	1,123.7	1,118.6	0.9	0.9
Diabetes mellitus	891	1,039	363.6	424.0	138.8	128.0	3.1	3.3
Cerebrovascular diseases	774	849	315.8	346.4	411.9	411.3	0.8	0.8
Pneumonia and influenza	571	614	233.0	250.5	227.6	231.6	1.1	1.1
Chronic obstructive pulmonary diseases and allied conditions	524	582	213.8	237.5	277.1	291.0	0.9	0.8
Unintentional injuries	383	400	156.3	163.2	92.1	93.1	1.8	1.8
Motor vehicle	119	125	48.6	51.0	23.6	23.6	2.2	2.2
Other unintentional injuries	264	275	107.7	112.2	68.6	69.5	1.6	1.6
Nephritis, nephrotic syndrome, and nephrosis	219	241	89.4	98.3	63.9	60.5	1.5	1.6
Chronic liver disease and cirrhosis	171	183	69.8	74.7	30.0	31.3	2.5	2.4
Septicemia	148	154	60.4	62.8	53.1	49.3	1.2	1.3
All other causes	1,976	2,166						

[1] Adjusted — specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

NOTE: Causes of death listed are based on the order of adjusted number of deaths.

CHART 10 ALCOHOL-RELATED DEATH RATES BY AGE AND SEX, AMERICAN INDIANS AND ALASKA NATIVES (1996-1998) AND U.S. ALL-RACES (1997)

Alcohol abuse is a serious problem among AI/AN elders. The highest alcohol-related age-specific death rate for AI/AN males (172.0 deaths per 100,000 population) occurs for the 55 to 64 year old age group. This is 5.2 times the peak U.S. all-races male rate (32.8) and 5.7 times the peak U.S. white male rate (30.4), which both occur for the 55 to 64 age group. The rate for AI/AN females in this age group (64.9) is less than half the AI/AN male rate, but is 7.2 times the highest rate for U.S. all-races females (9.0) and 7.5 times that for white females (8.6) (both for ages 55 to 64). Even for persons exceeding 64 years of age, the AI/AN rates are relatively high. For age groups 65 years and over, the AI/AN male rates (171.5, 64.6 and 40.1) range from 3.5 to 6.0 times the corresponding U.S. all-races and white rates. For age groups 65 to 84, the AI/AN female rates (39.0 and 27.5) range from 4.9 to 5.7 times the rates for these U.S. groups. The AI/AN female rate is zero for ages 85 and over. The AI/AN rates have been adjusted for misreporting of race on the state death certificates.

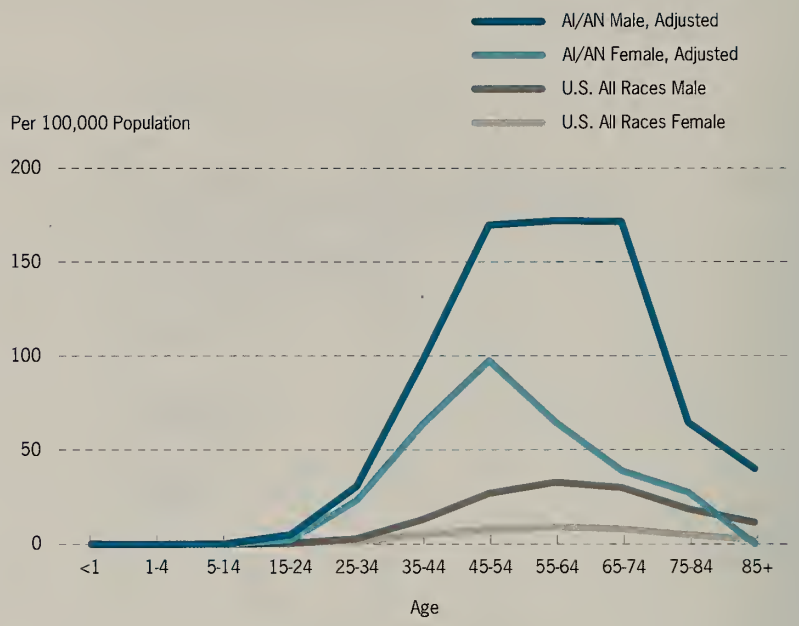

TABLE 10 ALCOHOL-RELATED DEATH RATES BY AGE AND SEX

American Indians and Alaska Natives, IHS Service Area, 1996-1998, and U.S. All-Races and White Populations, 1997
(Rate per 100,000 Population)

	American Indian and Alaska Native					
	Both Sexes		Male		Female	
Age Group	Unadjusted	Adjusted[1]	Unadjusted	Adjusted[1]	Unadjusted	Adjusted[1]
Under 1 year	—*	—*	—*	—*	—*	—*
1-4 years	—*	—*	—*	—*	—*	—*
5-14 years	0.1	0.1	0.2	0.2	—*	—*
15-24 years	3.3	3.7	5.1	5.1	1.3	2.1
25-34 years	23.5	27.1	29.2	30.9	18.1	23.4
35-44 years	69.5	80.3	86.8	97.8	53.3	63.9
45-54 years	113.5	132.1	148.1	169.7	81.8	97.6
55-64 years	99.3	114.8	148.1	172.0	56.9	64.9
65-74 years	85.8	97.6	149.2	171.5	35.5	39.0
75-84 years	39.7	42.4	61.2	64.6	25.2	27.5
85 years +	14.7	14.7	40.1	40.1	—*	—*

	U.S. All Races			U.S. White		
Age Group	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	0.1	0.1	0.1	0.0	—*	0.1
1-4 years	0.0	—*	0.0	0.0	—*	0.0
5-14 years	0.0	0.0	0.0	0.0	0.0	0.0
15-24 years	0.3	0.4	0.1	0.3	0.4	0.1
25-34 years	2.0	2.8	1.2	1.9	2.7	1.0
35-44 years	8.9	13.0	4.9	8.6	12.7	4.5
45-54 years	16.9	26.9	7.3	15.7	25.0	6.6
55-64 years	20.3	32.8	9.0	19.1	30.4	8.6
65-74 years	17.7	30.0	7.9	17.3	28.8	7.9
75-84 years	10.3	18.6	4.8	10.2	18.3	4.8
85 years +	4.8	11.4	2.2	4.8	11.5	2.2

—* Represents zero.

0.0 Quantity more than zero but less than 0.05.

[1] Adjusted to compensate for misreporting of AI/AN race on state death certificates.

CHART 11 DRUG-RELATED DEATH RATES BY AGE AND SEX, AMERICAN INDIANS AND ALASKA NATIVES (1996-1998) AND U.S. ALL-RACES (1997)

Drug abuse is less of a problem for AI/AN elders than that of alcohol abuse. The age-specific drug-related death rates for AI/AN elder females are higher than males except for age group 55 to 64 years. The age and sex specific drug-related death rates for AI/AN elders are higher than the two populations, except age group 75 to 84 years. However, these AI/AN age and sex specific death rates need to be interpreted with caution since they are based on a small number of deaths. The highest U.S. all-races and white elder drug-related death rates occur in the 85 and over age group. The AI/AN rates have been adjusted for misreporting of race on the state death certificates.

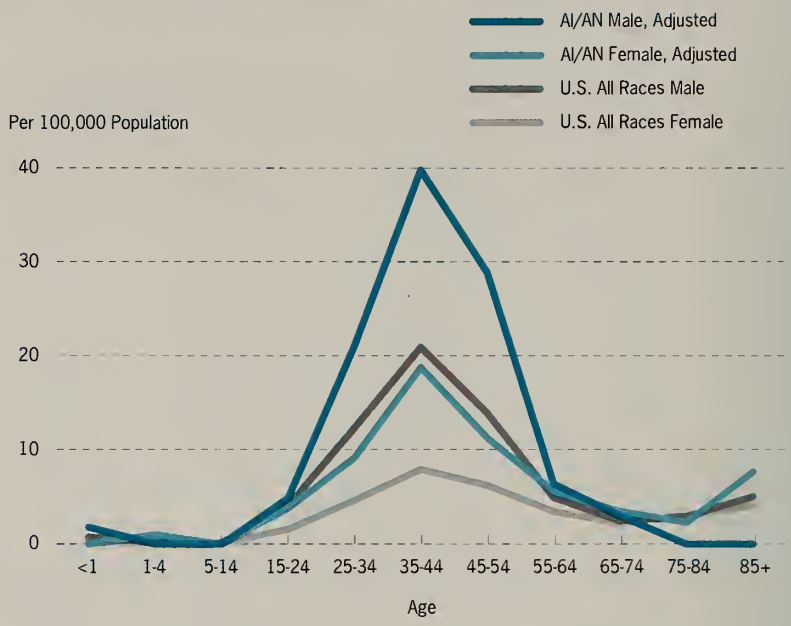

TABLE 11 DRUG-RELATED DEATH RATES BY AGE AND SEX

American Indians and Alaska Natives, IHS Service Area, 1996-1998, and U.S. All-Races and White Populations, 1997
(Rate per 100,000 Population)

	American Indian and Alaska Native					
	Both Sexes		Male		Female	
Age Group	Unadjusted	Adjusted[1]	Unadjusted	Adjusted[1]	Unadjusted	Adjusted[1]
Under 1 year	0.9	0.9	1.8	1.8	—*	—*
1-4 years	0.2	0.5	—*	—*	0.5	1.0
5-14 years	—*	—*	—*	—*	—*	—*
15-24 years	3.3	4.3	4.1	4.9	2.4	3.8
25-34 years	12.0	15.0	16.6	21.1	7.5	9.2
35-44 years	23.7	29.0	32.2	39.8	15.6	18.8
45-54 years	17.6	19.7	24.6	28.9	11.3	11.3
55-64 years	5.1	6.0	5.5	6.4	4.8	5.6
65-74 years	3.3	3.3	3.0	3.0	3.5	3.5
75-84 years	1.4	1.4	—*	—*	2.3	2.3
85 years +	4.9	4.9	—*	—*	7.7	7.7

	U.S. All Races			U.S. White		
Age Group	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	0.4	0.7	0.2	0.2	0.4	—*
1-4 years	0.1	0.1	0.1	0.1	0.1	0.1
5-14 years	0.1	0.1	0.1	0.1	0.1	0.1
15-24 years	2.8	4.0	1.5	3.1	4.5	1.6
25-34 years	8.5	12.3	4.6	8.7	12.7	4.7
35-44 years	14.4	20.9	7.9	13.7	19.9	7.5
45-54 years	10.0	13.9	6.2	9.0	12.1	5.9
55-64 years	4.1	4.9	3.4	3.8	4.1	3.5
65-74 years	2.3	2.4	2.2	2.3	2.3	2.4
75-84 years	3.0	2.9	3.0	3.0	3.0	3.0
85 years +	4.3	5.0	4.0	4.3	5.1	4.0

—* Represents zero.

[1] Adjusted to compensate for misreporting of AI/AN race on state death certificates.

CHART 12 UNINTENTIONAL INJURY DEATH RATES BY AGE AND SEX, AMERICAN INDIANS AND ALASKA NATIVES (1996-1998) AND U.S. ALL-RACES (1997)

The likelihood of an AI/AN person dying from an unintentional injury increases with age for age groups 55 years and older. This is true without exception for the U.S. all-races and white populations. AI/AN males of all ages are much more likely to die from unintentional injuries than the corresponding AI/AN female groups; the male death rates for age groups 55 years and over range from 1.3 to 2.7 times as great as the female rates. In comparison to U.S. all-races and white male elders, the AI/AN male death rates are higher for all age groups. The AI/AN rates have been adjusted for misreporting of race on the state death certificates.

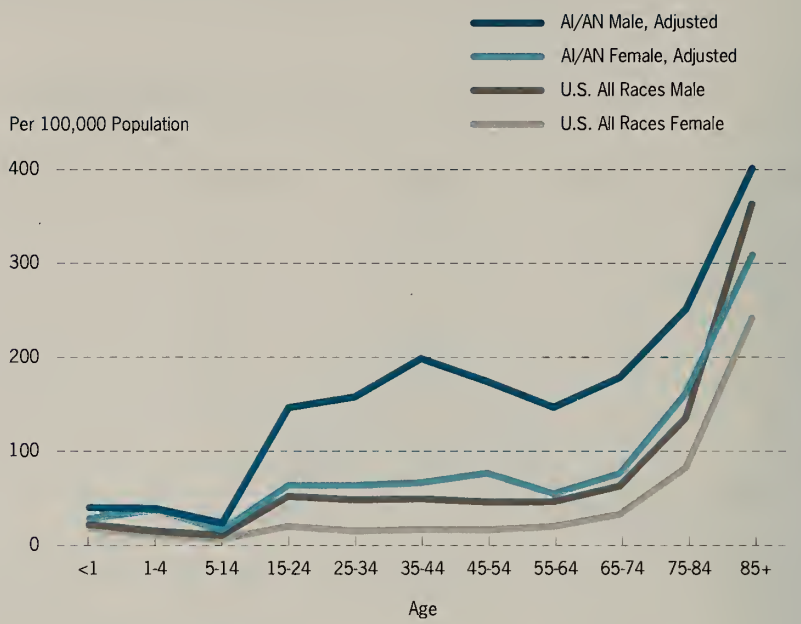

TABLE 12 UNINTENTIONAL INJURY DEATH RATES BY AGE AND SEX

American Indians and Alaska Natives, IHS Service Area, 1996-1998, and U.S. All-Races and White Populations, 1997
(Rate per 100,000 Population)

	American Indian and Alaska Native					
	Both Sexes		Male		Female	
Age Group	Unadjusted	Adjusted[1]	Unadjusted	Adjusted[1]	Unadjusted	Adjusted[1]
Under 1 year	30.2	34.7	37.0	40.5	23.3	28.7
1-4 years	30.7	38.7	29.7	39.5	31.8	37.8
5-14 years	18.6	20.5	22.0	24.1	15.2	16.7
15-24 years	85.5	106.3	124.9	146.7	44.5	64.1
25-34 years	91.3	110.2	135.2	158.2	49.3	64.1
35-44 years	114.0	130.9	174.0	199.0	57.9	67.1
45-54 years	111.8	123.8	158.0	174.6	69.4	77.3
55-64 years	90.8	98.1	135.2	147.2	52.1	55.3
65-74 years	116.1	122.1	168.6	179.0	74.5	76.9
75-84 years	187.5	198.4	238.2	251.8	153.4	162.5
85 years +	342.8	342.8	401.2	401.2	309.1	309.1

	U.S. All Races			U.S. White		
Age Group	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	20.1	22.1	18.1	17.0	18.4	15.6
1-4 years	13.1	15.2	10.8	11.8	13.9	9.7
5-14 years	8.7	10.6	6.7	8.0	9.9	6.0
15-24 years	36.5	52.1	20.1	38.3	54.0	21.5
25-34 years	31.8	48.4	15.2	31.7	47.9	15.0
35-44 years	33.0	49.5	16.8	31.9	47.6	16.0
45-54 years	31.0	46.1	16.4	29.2	43.1	15.5
55-64 years	32.6	46.4	20.0	31.0	43.6	19.4
65-74 years	46.4	63.0	32.9	45.2	61.1	32.2
75-84 years	103.4	135.6	82.3	103.5	135.3	82.5
85 years +	276.5	362.9	241.6	284.5	373.9	248.9

[1] Adjusted to compensate for misreporting of AI/AN race on state death certificates.

CHART 13 SUICIDE DEATH RATES BY AGE AND SEX,
AMERICAN INDIANS AND ALASKA NATIVES (1996-1998) AND U.S. ALL-RACES (1997)

Suicide death rates are relatively low for AI/AN females in age groups 75 and over. U.S. all-races and white females have higher suicide death rates for these age groups than AI/AN females, but their rates are considerably less than the corresponding rates for males in the AI/AN, U.S. all-races, and U.S. white populations. AI/AN male elders, though, are less likely to die from suicide than U.S. all-races and white male elders. The AI/AN rates have been adjusted for misreporting of race on the state death certificates.

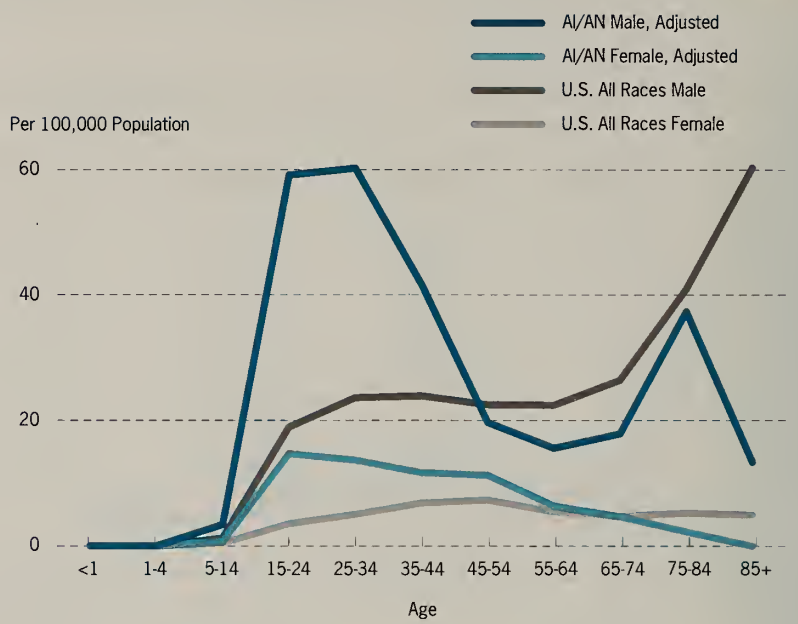

TABLE 13 SUICIDE DEATH RATES BY AGE AND SEX

American Indians and Alaska Natives, IHS Service Area, 1996-1998, and U.S. All-Races and White Populations, 1997
(Rate per 100,000 Population)

	American Indian and Alaska Native					
	Both Sexes		Male		Female	
Age Group	Unadjusted	Adjusted[1]	Unadjusted	Adjusted[1]	Unadjusted	Adjusted[1]
Under 1 year	—*	—*	—*	—*	—*	—*
1-4 years	—*	—*	—*	—*	—*	—*
5-14 years	2.0	2.1	3.2	3.4	3.0	0.7
15-24 years	31.7	37.4	51.4	59.1	55.0	14.7
25-34 years	30.7	36.5	52.3	60.2	51.0	13.7
35-44 years	24.0	26.2	39.0	41.7	33.0	11.7
45-54 years	13.8	15.3	19.1	19.7	20.0	11.3
55-64 years	9.8	10.7	14.7	15.6	8.0	6.4
65-74 years	9.9	10.6	16.4	17.9	4.0	4.7
75-84 years	15.1	16.4	34.0	37.4	1.0	2.3
85 years +	4.9	4.9	13.4	13.4	—*	—*

	U.S. All Races			U.S. White		
Age Group	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	—*	—*	—*	—*	—*	—*
1-4 years	—*	—*	—*	—*	—*	—*
5-14 years	0.8	1.2	0.4	0.8	1.2	0.4
15-24 years	11.4	18.9	3.5	11.9	19.5	3.7
25-34 years	14.3	23.6	5.0	15.2	24.8	5.4
35-44 years	15.3	23.9	6.8	16.7	25.7	7.6
45-54 years	14.7	22.5	7.3	16.1	24.4	8.0
55-64 years	13.5	22.4	5.4	14.6	23.9	5.9
65-74 years	14.4	26.4	4.7	15.3	28.0	4.9
75-84 years	19.3	40.9	5.2	20.5	43.4	5.4
85 years +	20.8	60.3	4.9	22.0	65.0	4.9

—* Represents zero.

[1] Adjusted to compensate for misreporting of AI/AN race on state death certificates.

CHART 14 HOMICIDE DEATH RATES BY AGE AND SEX, AMERICAN INDIANS AND ALASKA NATIVES (1996-1998) AND U.S. ALL-RACES (1997)

The elderly are less likely to die from homicide than persons in age groups between 15 and 54 years. However, AI/AN elders in the age group 65 to 74 years have a homicide death rate that is 3.0 times the rate for U.S. all-races elders and 3.6 times the rate for U.S. white elders in this age group. Within the AI/AN population, males aged 55 to 64 years are 19.5 times as likely to die from homicide than the corresponding group for females. The AI/AN rates have been adjusted for misreporting of race on the state death certificates.

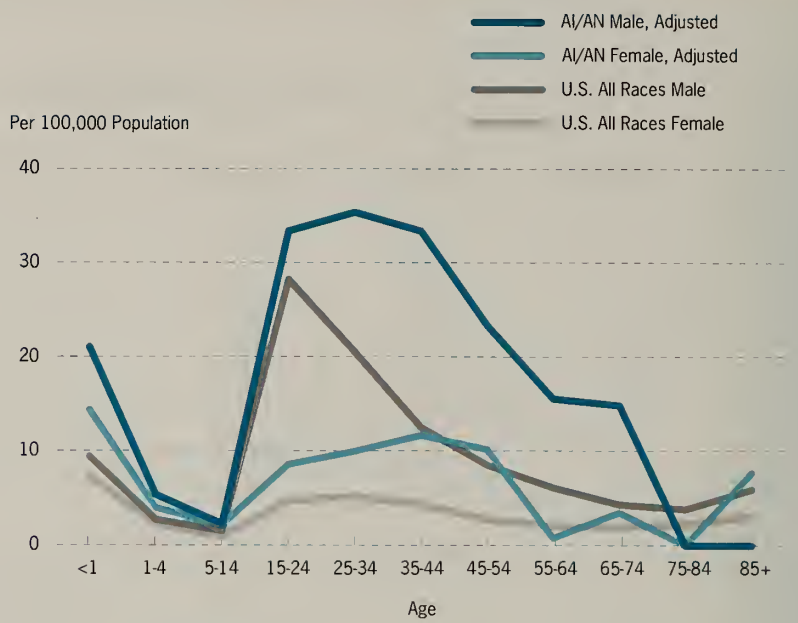

TABLE 14 HOMICIDE DEATH RATES BY AGE AND SEX

American Indians and Alaska Natives, IHS Service Area, 1996-1998, and U.S. All-Races and White Populations, 1997
(Rate per 100,000 Population)

	American Indian and Alaska Native					
	Both Sexes		Male		Female	
Age Group	Unadjusted	Adjusted[1]	Unadjusted	Adjusted[1]	Unadjusted	Adjusted[1]
Under 1 year	13.3	17.8	14.1	21.1	12.6	14.4
1-4 years	4.2	4.7	5.4	5.4	3.0	4.0
5-14 years	1.8	2.3	1.7	2.3	2.0	2.2
15-24 years	17.8	21.3	29.6	33.4	5.6	8.6
25-34 years	18.7	22.4	30.6	35.4	7.3	10.0
35-44 years	20.0	22.2	30.3	33.4	10.3	11.7
45-54 years	15.6	16.5	22.1	23.4	9.6	10.2
55-64 years	7.7	7.7	15.6	15.6	0.8	0.8
65-74 years	7.9	8.6	13.4	14.9	3.5	3.5
75-84 years	—*	—*	—*	—*	—*	—*
85 years +	4.9	4.9	—*	—*	7.7	7.7

	U.S. All Races			U.S. White		
Age Group	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	8.3	9.4	7.3	6.3	7.8	4.6
1-4 years	2.4	2.7	2.2	1.7	1.9	1.6
5-14 years	1.2	1.5	0.9	0.8	1.0	0.6
15-24 years	16.8	28.2	4.7	8.3	13.2	3.2
25-34 years	12.8	20.5	5.1	7.4	11.4	3.4
35-44 years	8.4	12.5	4.3	5.4	7.8	2.9
45-54 years	5.6	8.5	2.7	4.0	5.9	2.1
55-64 years	3.9	6.1	2.0	3.0	4.6	1.6
65-74 years	2.9	4.3	1.9	2.4	3.3	1.7
75-84 years	2.9	3.8	2.2	2.4	3.1	2.0
85 years +	3.8	5.9	3.0	3.4	5.2	2.7

—* Represents zero.

[1] Adjusted to compensate for misreporting of AI/AN race on state death certificates.

CHART 15 CHRONIC LIVER DISEASE AND CIRRHOSIS DEATH RATES BY AGE AND SEX, AMERICAN INDIANS AND ALASKA NATIVES (1996-1998) AND U.S. ALL-RACES (1997)

The likelihood of dying from chronic liver disease and cirrhosis is generally greater for persons over 44 years of age than for younger persons. The peak death rate for this cause for AI/AN elders (96.3 deaths per 100,000 population) occurs at 55 to 64 years. This is the age group that has the highest rate for AI/AN male and female elders. The AI/AN female is 49 percent of the peak AI/AN male elder rate. Elders in the U.S. all-races and white populations have considerably lower rates – their peak rates (31.4 and 32.1 percents for 65 to 74 years, respectively) are (33 percent) of the AI/AN elder peak rate. The AI/AN rates have been adjusted for misreporting of race on the state death certificates.

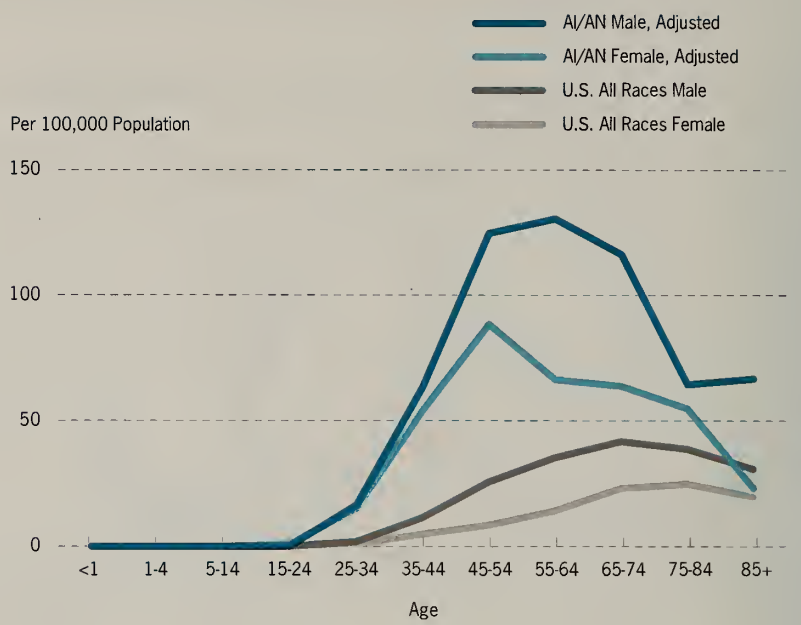

TABLE 15 CHRONIC LIVER DISEASE AND CIRRHOSIS DEATH RATES BY AGE AND SEX

American Indians and Alaska Natives, IHS Service Area, 1996-1998, and U.S. All-Races and White Populations, 1997
(Rate per 100,000 Population)

	American Indian and Alaska Native					
	Both Sexes		Male		Female	
Age Group	Unadjusted	Adjusted[1]	Unadjusted	Adjusted[1]	Unadjusted	Adjusted[1]
Under 1 year	—*	—*	—*	—*	—*	—*
1-4 years	—*	—*	—*	—*	—*	—*
5-14 years	—*	—*	—*	—*	—*	—*
15-24 years	0.4	0.7	0.3	0.3	0.5	1.1
25-34 years	13.3	15.8	15.5	16.6	11.3	15.1
35-44 years	50.8	58.9	56.1	63.7	45.8	54.3
45-54 years	90.9	105.9	109.4	124.8	73.9	88.5
55-64 years	83.9	96.3	113.2	130.6	58.5	66.5
65-74 years	80.5	87.1	105.9	116.4	60.3	63.9
75-84 years	56.1	58.8	61.2	64.6	52.6	54.9
85 years +	39.2	39.2	66.9	66.9	23.2	23.2

	U.S. All Races			U.S. White		
Age Group	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	0.6	—*	—*	—*	—*	—*
1-4 years	0.0	—*	—*	—*	—*	—*
5-14 years	0.0	—*	—*	—*	—*	—*
15-24 years	0.1	—*	—*	—*	—*	—*
25-34 years	1.3	1.7	0.9	1.3	1.7	0.8
35-44 years	8.0	11.3	4.7	7.9	11.3	4.4
45-54 years	16.7	25.5	8.3	15.9	24.4	7.6
55-64 years	24.1	35.2	14.0	23.6	34.2	13.7
65-74 years	31.4	41.7	23.0	32.1	42.4	23.5
75-84 years	30.2	38.7	24.7	31.4	40.2	25.6
85 years +	22.8	30.7	19.7	24.0	32.2	20.7

—* Represents zero.

0.0 Quantity more than zero but less than 0.05.

[1] Adjusted to compensate for misreporting of AI/AN race on state death certificates.

CHART 16 DIABETES MELLITUS DEATH RATES BY AGE AND SEX, AMERICAN INDIANS AND ALASKA NATIVES (1996-1998) AND U.S. ALL-RACES (1997)

Death rates due to diabetes mellitus increase with age for AI/AN elders. AI/AN elders die from diabetes mellitus at greater rates than elders in the U.S. all-races and white populations. However, the gaps decrease with age. That is, the AI/AN rate is 4.5 times the U.S. all-races rate for the age group 55 to 64 years, but 2.0 times for the age group 85 years and older. In comparison to white elders, the AI/AN gap narrows from 5.4 times to 2.1 times. AI/AN female elders 75-84 years are more likely to die from diabetes mellitus than AI/AN male elders. The widest difference is for the age group 85 years and older – the female rate is 1.6 times the male rate. The AI/AN rates have been adjusted for misreporting of race on the state death certificates.

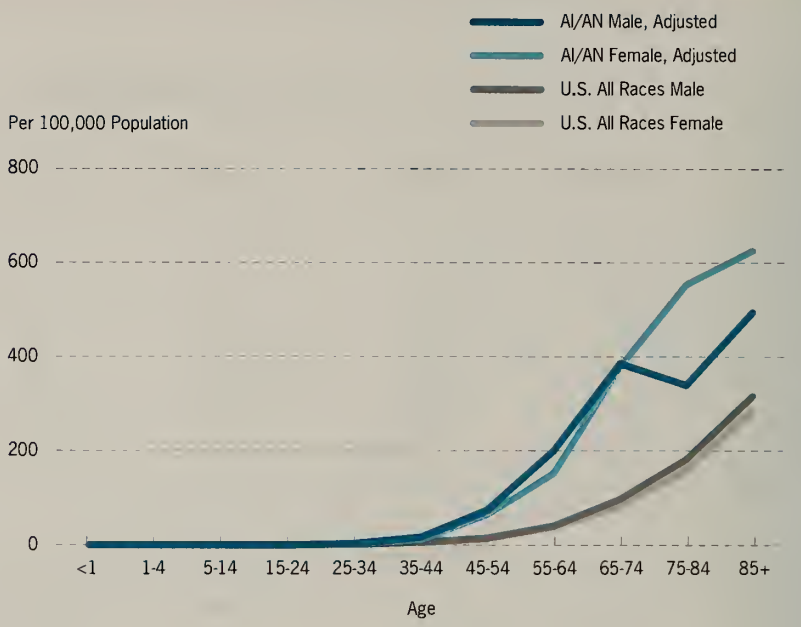

TABLE 16 DIABETES MELLITUS DEATH RATES BY AGE AND SEX

American Indians and Alaska Natives, IHS Service Area, 1996-1998, and U.S. All-Races and White Populations, 1997
(Rate per 100,000 Population)

	American Indian and Alaska Native					
	Both Sexes		Male		Female	
Age Group	Unadjusted	Adjusted[1]	Unadjusted	Adjusted[1]	Unadjusted	Adjusted[1]
Under 1 year	—*	—*	—*	—*	—*	—*
1-4 years	—*	—*	—*	—*	—*	—*
5-14 years	—*	—*	—*	—*	—*	—*
15-24 years	—*	—*	—*	—*	—*	—*
25-34 years	2.5	2.9	3.4	3.7	1.6	2.2
35-44 years	12.7	13.9	15.9	17.1	9.6	11.0
45-54 years	58.2	69.4	64.5	75.0	52.4	64.3
55-64 years	143.4	174.7	166.5	200.6	123.4	152.2
65-74 years	317.3	382.0	323.7	386.3	312.3	378.6
75-84 years	402.3	468.0	296.0	340.3	473.8	553.9
85 years +	568.1	577.9	481.5	494.9	618.1	625.9

	U.S. All Races			U.S. White		
Age Group	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	—*	—*	—*	—*	—*	—*
1-4 years	—*	—*	—*	—*	—*	—*
5-14 years	0.1	—*	—*	—*	—*	—*
15-24 years	0.4	0.4	0.4	0.3	0.3	0.3
25-34 years	1.6	1.6	1.5	1.3	1.2	1.3
35-44 years	4.2	5.3	3.2	3.6	4.6	2.6
45-54 years	12.9	14.8	11.0	10.7	12.5	9.0
55-64 years	38.4	40.5	36.4	32.1	35.1	29.3
65-74 years	88.2	97.1	81.0	78.4	89.2	69.5
75-84 years	167.4	181.9	157.9	154.9	173.3	142.7
85 years +	294.1	316.2	285.2	277.3	308.7	264.9

—* Represents zero.

[1] Adjusted to compensate for misreporting of AI/AN race on state death certificates.

CHART 17 HEART DISEASE DEATH RATES BY AGE AND SEX, AMERICAN INDIANS AND ALASKA NATIVES (1996-1998) AND U.S. ALL-RACES (1997)

For the elder age groups (both sexes combined), the death rate due to diseases of the heart more than doubles as it applies to the next higher age group. AI/AN elders have a higher death rate for heart disease than elders in the U.S. all-races and white populations for the age groups 55 to 74 years. The AI/AN rate is less, however, for the other elder age groups in comparison to these two populations. For 75 to 84 years, it is 2 percent less than both the U.S. all-races and white rates. For 85 years and older, it is 28 and 30 percent less, respectively. AI/AN males are 1.1 to 2.2 times more likely to die from diseases of the heart than AI/AN females in the elder age groups. The AI/AN rates have been adjusted for misreporting of race on the state death certificates.

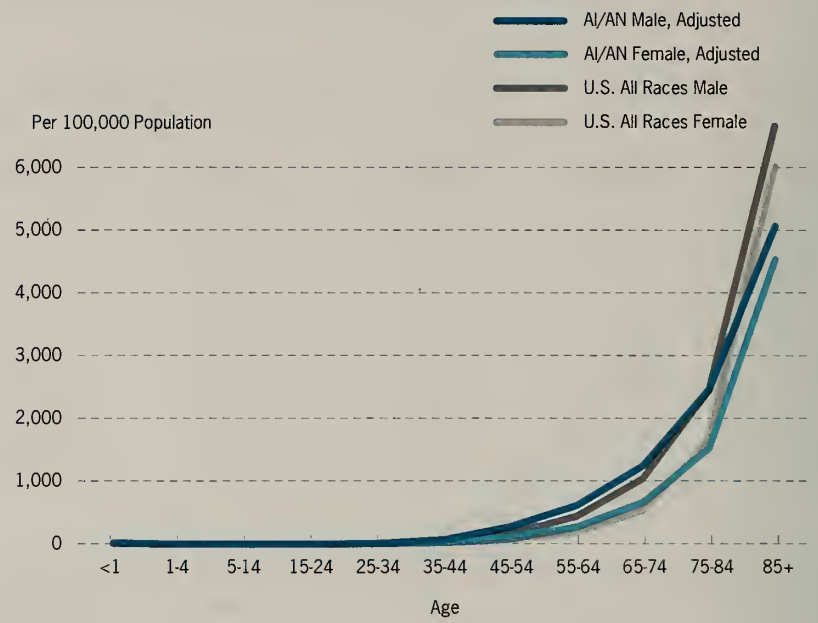

TABLE 17 HEART DISEASE DEATH RATES BY AGE AND SEX

American Indians and Alaska Natives, IHS Service Area, 1996-1998, and U.S. All-Races and White Populations, 1997
(Rate per 100,000 Population)

	American Indian and Alaska Native					
	Both Sexes		Male		Female	
Age Group	Unadjusted	Adjusted[1]	Unadjusted	Adjusted[1]	Unadjusted	Adjusted[1]
Under 1 year	19.6	19.6	19.4	21.1	19.8	18.0
1-4 years	2.5	3.0	1.5	1.5	3.5	4.5
5-14 years	0.8	0.9	0.9	0.9	0.7	0.9
15-24 years	3.1	4.1	2.3	2.6	4.0	5.6
25-34 years	8.8	10.3	12.6	14.3	5.1	6.5
35-44 years	41.6	48.6	64.1	72.4	20.6	26.3
45-54 years	153.2	181.8	236.7	282.2	76.7	89.7
55-64 years	361.4	436.3	517.0	618.2	225.9	278.0
65-74 years	774.6	923.7	1,053.1	1,250.0	553.7	664.9
75-84 years	1,595.5	1,907.5	2,021.1	2,470.2	1,309.3	1,529.0
85 years +	4,441.9	4,730.9	4,667.6	5,068.9	4,311.5	4,535.6

	U.S. All Races			U.S. White		
Age Group	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	16.4	18.0	14.7	14.6	16.6	12.6
1-4 years	1.4	1.5	1.2	1.2	1.1	1.2
5-14 years	0.8	0.9	0.7	0.7	0.9	0.6
15-24 years	3.0	3.6	2.4	2.5	3.0	1.9
25-34 years	8.3	10.8	5.8	7.0	9.3	4.6
35-44 years	30.1	43.7	16.5	26.1	39.3	12.8
45-54 years	104.9	157.7	54.3	94.6	145.4	44.9
55-64 years	302.4	434.6	182.1	282.3	411.2	162.5
65-74 years	753.7	1,031.1	529.4	732.5	1,015.1	500.7
75-84 years	1,943.6	2,443.6	1,616.6	1,936.4	2,453.7	1,595.9
85 years +	6,198.9	6,658.5	6,013.7	6,313.4	6,829.7	6,108.0

[1] Adjusted to compensate for misreporting of AI/AN race on state death certificates.

CHART 18 CEREBROVASCULAR DISEASES DEATH RATES BY AGE AND SEX, AMERICAN INDIANS AND ALASKA NATIVES (1996-1998) AND U.S. ALL-RACES (1997)

AI/AN elders die from cerebrovascular diseases at higher rates than elders in the U.S. all-races and white populations for age groups 55 to 84 years. For age group 85+, U.S. all-races and white elders are more likely to die from this cause than AI/AN elders. AI/AN female elders are somewhat more likely to die from cerebrovascular diseases than AI/AN male elders, except for the age group 75 to 84 years. The AI/AN rates have been adjusted for misreporting of race on the state death certificates.

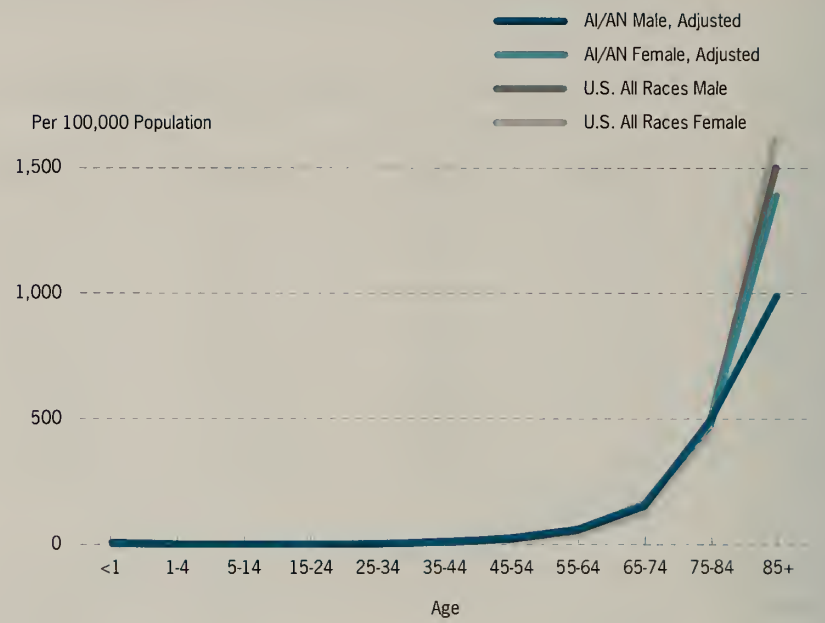

TABLE 18 CEREBROVASCULAR DISEASES DEATH RATES BY AGE AND SEX

American Indians and Alaska Natives, IHS Service Area, 1996-1998, and U.S. All-Races and White Populations, 1997
(Rate per 100,000 Population)

	American Indian and Alaska Native					
	Both Sexes		Male		Female	
Age Group	Unadjusted	Adjusted[1]	Unadjusted	Adjusted[1]	Unadjusted	Adjusted[1]
Under 1 year	2.7	2.7	3.5	5.3	1.8	—*
1-4 years	0.2	0.2	—*	—*	0.5	0.5
5-14 years	0.1	0.1	0.2	0.2	—*	—*
15-24 years	0.7	0.7	1.0	1.0	0.3	0.3
25-34 years	2.6	3.2	2.2	2.8	3.0	3.5
35-44 years	8.3	9.4	10.2	11.8	6.4	7.1
45-54 years	24.1	26.2	23.4	24.0	24.8	28.2
55-64 years	56.1	60.8	56.1	60.7	56.1	60.9
65-74 years	141.9	159.0	137.2	152.2	145.5	164.4
75-84 years	424.2	484.4	438.9	496.8	414.3	476.1
85 years +	1,219.5	1,243.9	976.3	989.7	1,359.9	1,390.8

	U.S. All Races			U.S. White		
Age Group	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	7.0	7.6	6.3	5.9	6.4	5.4
1-4 years	0.4	0.5	0.3	0.3	0.3	—*
5-14 years	0.2	0.2	0.2	0.2	0.2	0.2
15-24 years	0.5	0.6	0.5	0.5	0.5	0.4
25-34 years	1.7	1.7	1.7	1.5	1.5	1.5
35-44 years	6.3	6.5	6.2	4.7	5.0	4.4
45-54 years	16.9	19.2	14.8	13.1	14.6	11.6
55-64 years	44.4	51.4	37.9	36.9	42.3	31.8
65-74 years	134.8	153.1	120.1	125.1	141.8	111.4
75-84 years	462.0	488.7	444.4	454.5	480.3	437.5
85 years +	1,584.6	1,500.7	1,618.4	1,613.0	1,530.6	1,645.8

—* Represents zero.

[1] Adjusted to compensate for misreporting of AI/AN race on state death certificates.

CHART 19 MALIGNANT NEOPLASM DEATH RATES BY AGE AND SEX, AMERICAN INDIANS AND ALASKA NATIVES (1996-1998) AND U.S. ALL-RACES (1997)

From the age of 5, the older a person is, the more likely that person will die as a result of a malignant neoplasm. However, AI/AN elders have lower malignant neoplasm death rates than elders in the U.S. all-races and white (except 55 to 64 age group) populations. Within the AI/AN population, male elders are more likely to die from malignant neoplasms than female elders. The AI/AN rates have been adjusted for misreporting of race on the state death certificates.

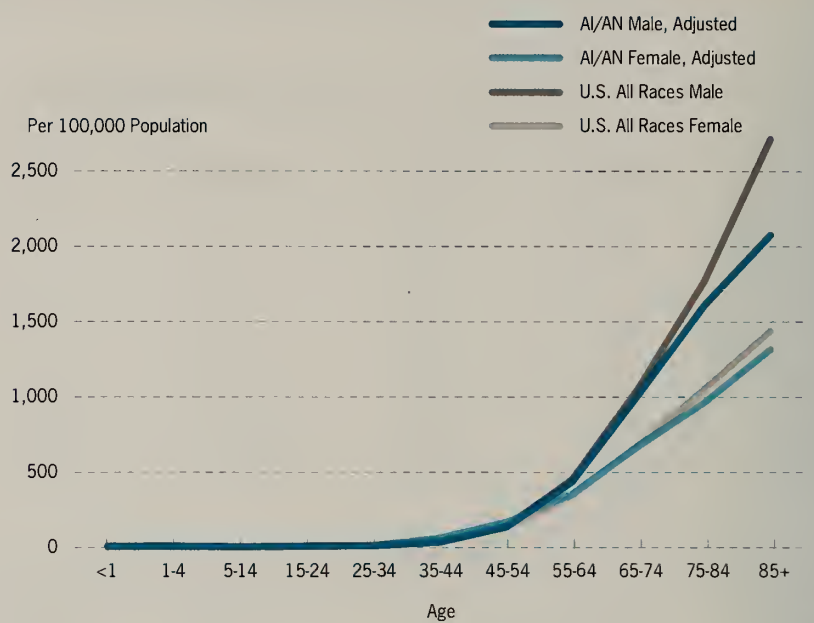

TABLE 19 MALIGNANT NEOPLASM DEATH RATES BY AGE AND SEX

American Indians and Alaska Natives, IHS Service Area, 1996-1998, and U.S. All-Races and White Populations, 1997
(Rate per 100,000 Population)

	American Indian and Alaska Native					
	Both Sexes		Male		Female	
Age Group	Unadjusted	Adjusted[1]	Unadjusted	Adjusted[1]	Unadjusted	Adjusted[1]
Under 1 year	2.7	3.6	5.3	5.3	—*	1.8
1-4 years	3.7	4.2	5.4	6.3	2.0	2.0
5-14 years	1.4	2.0	1.5	1.9	1.3	2.0
15-24 years	4.1	5.1	4.6	5.7	3.5	4.6
25-34 years	8.4	10.0	7.3	8.2	9.4	11.9
35-44 years	41.8	47.5	31.5	32.6	51.5	61.4
45-54 years	130.9	149.7	119.9	132.2	141.0	165.8
55-64 years	332.3	390.5	375.3	432.4	294.8	354.1
65-74 years	706.6	819.4	869.6	1,009.9	577.3	668.4
75-84 years	1,064.6	1,220.6	1,371.2	1,606.0	858.3	961.3
85 years +	1,547.6	1,591.7	1,966.0	2,073.0	1,305.8	1,313.6

	U.S. All Races			U.S. White		
Age Group	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	2.4	2.3	2.5	2.3	2.1	2.4
1-4 years	2.9	3.1	2.6	2.8	3.0	2.6
5-14 years	2.7	2.8	2.5	2.7	2.9	2.6
15-24 years	4.5	5.2	3.7	4.4	5.1	3.6
25-34 years	11.6	11.5	11.7	11.2	11.2	11.2
35-44 years	38.9	34.5	43.1	36.4	32.3	40.6
45-54 years	135.1	138.0	132.3	128.7	129.0	128.4
55-64 years	395.7	453.4	343.2	384.3	432.4	339.6
65-74 years	847.3	1,058.4	676.8	838.7	1,038.7	674.6
75-84 years	1,335.2	1,770.2	1,050.6	1,326.1	1,746.1	1,049.7
85 years +	1,805.0	2,712.5	1,439.2	1,794.4	2,695.5	1,435.8

—* Represents zero.

[1] Adjusted to compensate for misreporting of AI/AN race on state death certificates.

CHART 20 DEATH RATES, LEADING CANCER SITES: 55 YEARS OF AGE AND OLDER

The leading site for cancer deaths among AI/AN elders is, by a large margin, trachea, bronchus, and lung. Approximately three times as many AI/AN people in this age group died of this type of cancer than the next leading sites, colon and genital organs, respectively. Elders in the U.S. all-races and white populations have the same top five leading sites, except that the order for colon and genital organs deaths is reversed for U.S. all-races and U.S. white elders. The fourth and fifth leading sites for AI/AN are breast and pancreas. However, elders in the U.S. all-races and white populations have much higher cancer death rates for these sites than AI/AN elders. The next sites, order 6 through 10, vary greatly between AI/AN elders and U.S. all-races and white elders. In contrast to the first five sites, AI/AN elder cancer death rates for AI/AN sites 6, 7 and 8 (liver, stomach, and kidney) exceed the corresponding U.S. all-races and white rates. The AI/AN rate for sites 9 and 10 (multiple myeloma and Lekemia) are less than the rates for U.S. all-races and white (except for multiple myeloma). The AI/AN counts have been adjusted for misreporting of race on the state death certificates.

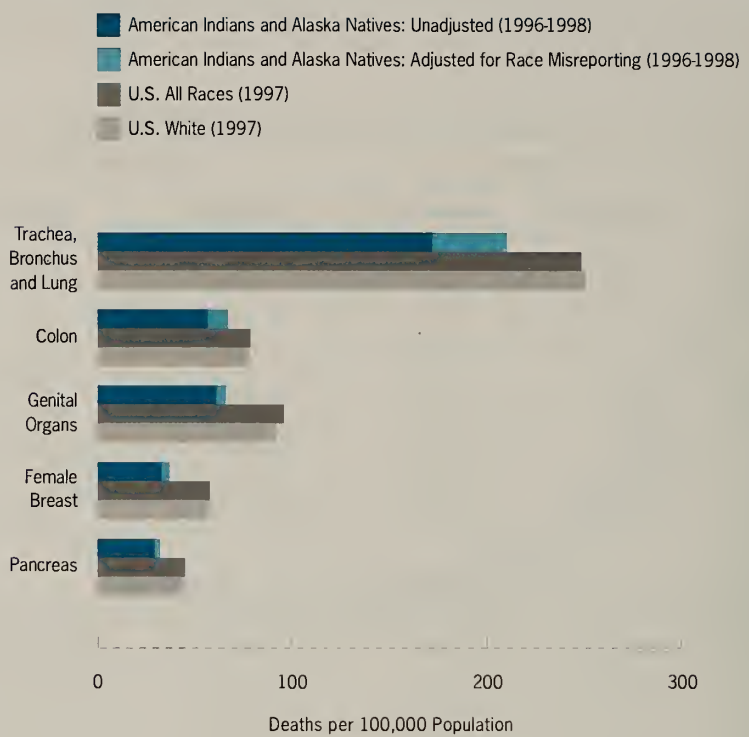

TABLE 20 LEADING SITES FOR CANCER DEATHS FOR DECEDENTS 55 YEARS OF AGE AND OLDER

American Indians and Alaska Natives, IHS Service Area, 1996-1998, and U.S. All-Races and White Populations, 1997
(Rate per 100,000 Population)

	American Indian and Alaska Native				U.S. All Races	U.S. White	Ratio of American Indian and Alaska Native[1] to:	
Site of Cancer Death	Number Unadjusted	Number Adjusted[1]	Rate Unadjusted	Rate Adjusted[1]	Rate	Rate	U.S. All Races	U.S. White
All Sites	2,980	3,371	622.8	704.5	840.1	838.8	0.8	0.8
Trachea, bronchus and lung	822	1,004	171.8	209.8	248.2	250.8	0.8	0.8
Colon	271	327	56.6	68.3	78.4	77.9	0.9	0.9
Genital Organs	292	322	61.0	67.3	95.7	91.6	0.7	0.7
Breast	158	178	33.0	37.2	57.5	57.4	0.6	0.6
Pancreas	140	159	29.3	33.2	44.8	44.2	0.7	0.8
Liver	138	152	28.8	31.8	18.1	17.1	1.8	1.9
Stomach	125	145	26.1	30.3	20.4	18.3	1.5	1.7
Kidney	105	112	21.9	23.4	18.1	18.6	1.3	1.3
Multiple myeloma	74	79	15.5	16.5	17.6	16.1	0.9	1.0
Leukemia	69	74	14.4	15.5	29.7	31.0	0.5	0.5
Esophagus	57	66	11.9	13.8	17.6	16.8	0.8	0.8
Rectum, rectosigmoid junction and anus	50	56	10.4	11.7	13.0	12.9	0.9	0.9
Gallbladder	53	55	11.1	11.5	6.1	6.1	1.9	1.9
Larynx	31	35	6.5	7.3	6.0	5.5	1.2	1.3
Pharynx	31	32	6.5	6.7	1.5	1.5	4.5	4.5
Bladder	30	32	6.3	6.7	19.7	20.6	0.3	0.3
Brain	27	29	5.6	6.1	15.0	16.0	0.4	0.4
Connective and other soft tissue	19	21	4.0	4.4	5.0	5.1	0.9	0.9
Melanoma of skin	12	12	2.5	2.5	9.3	10.3	0.3	0.2
Thyroid gland	5	6	1.3	1.3	2.6	2.6	0.5	0.5
Tongue	5	5	1.0	1.0	2.6	2.6	0.4	0.4
Bone and articular cartilage	5	5	1.0	1.0	1.2	1.2	0.8	0.8
Small intestine	5	5	1.0	1.0	1.7	1.6	0.6	0.6
Lymphosarcoma and reticulosarcoma	2	2	0.4	0.4	1.2	1.3	0.3	0.3
Hodgkin's disease	2	2	0.4	0.4	1.4	1.5	0.3	0.3
All other sites	452	456						

[1] Adjusted – specified a number, rate, or ratio of rates to compensate for misreporting of AI/AN race on state death certificates.

NOTE: See appendix titled "Method Used to Rank Leading Sites of Cancer Deaths." Causes of death listed are based on the order of adjusted number of deaths.

CHART 21 AGE-SPECIFIC PROSTATE CANCER DEATH RATES

The likelihood of a man dying from prostate cancer increases with age. The death rates become pronounced at age 55. The AI/AN rate is somewhat higher than the rates in the U.S. all-races and white populations for the age group 55 to 64 years. However for the older age groups, the AI/AN rate ranges from 9 percent to 32 percent less than the comparable rates in these two populations. The AI/AN rates have been adjusted for misreporting of race on the state death certificates.

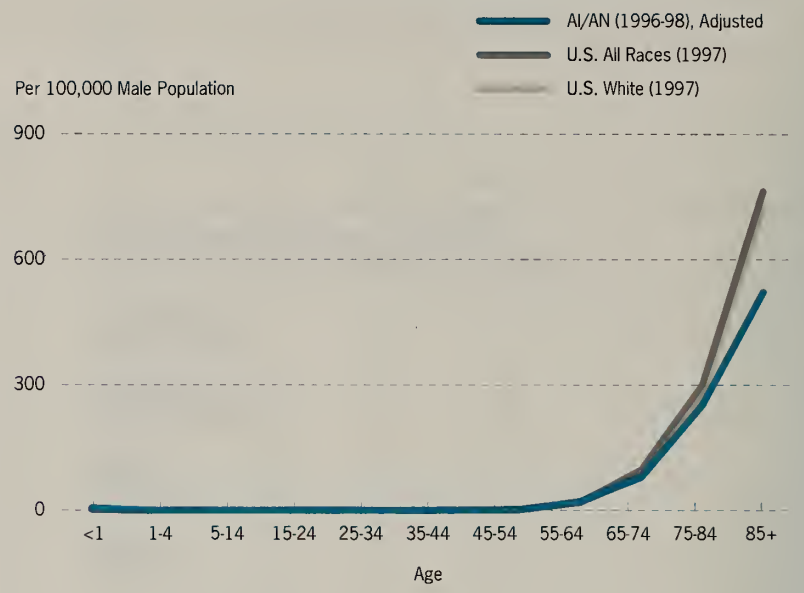

TABLE 21 AGE-SPECIFIC PROSTATE CANCER DEATH RATES

American Indians and Alaska Natives, IHS Service Area, 1996-1998, and U.S. All Races and White Populations, 1997
(Rate per 100,000 males in specified age-group)

	IHS Service Area				U.S. All Races		U.S. White	
	Number		Rate		Number	Rate	Number	Rate
Age Group	Unadjusted	Adjusted[1]	Unadjusted	Adjusted[1]				
All Ages	174	192[2]	12.8	14.2[2]	32,901	13.9[2]	27,060	12.6
Under 1 year	–	–	–	–	–	–	–	–
1-4 years	–	–	–	–	1	0.0	1	0.0
5-14 years	–	–	–	–	–	–	–	–
15-24 years	–	–	–	–	2	0.0	2	0.0
25-34 years	–	–	–	–	7	0.0	5	0.0
35-44 years	1	1	0.4	0.4	34	0.2	22	0.1
45-54 years	2	2	1.2	1.2	365	2.2	266	1.9
55-64 years	22	23	20.2	21.2	2,063	19.9	1,511	16.7
65-74 years	47	53	70.1	79.1	8,077	97.7	6,366	86.6
75-84 years	65	74	221.1	251.7	13,865	299.5	11,689	278.1
85 years +	37	39	494.9	521.6	8,487	763.3	7,198	721.6

[1] Adjusted to compensate for misreporting of AI/AN race on state death certificates.

[2] Age-adjusted mortality rate.

NOTE: 0.0 Rounds to zero. ICD-9 Codes 185.0 to 185.9.

CHART 22 PNEUMONIA AND INFLUENZA DEATH RATES BY AGE AND SEX, AMERICAN INDIANS AND ALASKA NATIVES (1996-1998) AND U.S. ALL-RACES (1997)

From the age of 15, the older a person is, the more likely that person will die as a result of a pneumonia and influenza. AI/AN elders have higher pneumonia and influenza death rates than elders in the U.S. all-races and white populations. Within the AI/AN population, male elders are more likely to die from pneumonia and influenza than female elders. The AI/AN rates have been adjusted for misreporting of race on the state death certificates.

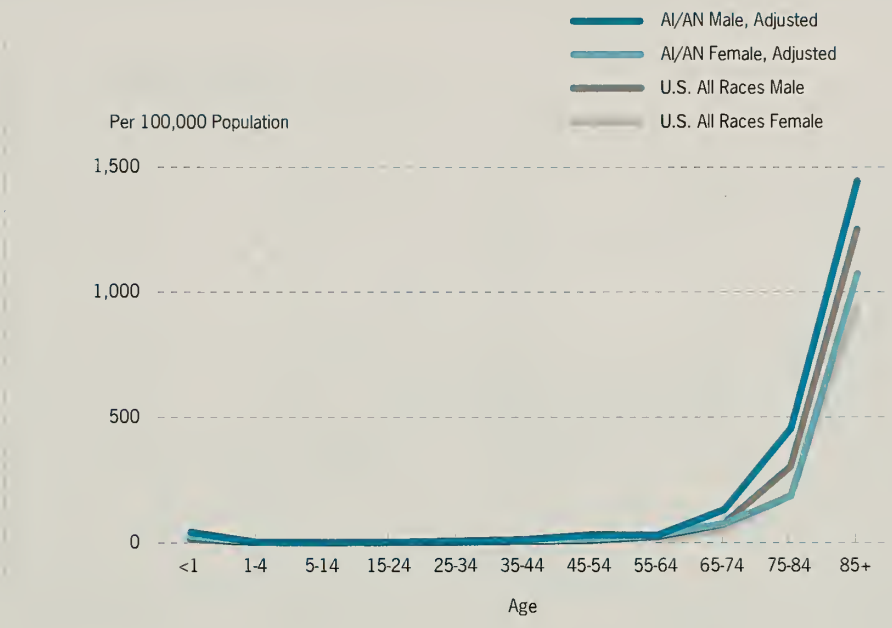

TABLE 22 PNEUMONIA AND INFLUENZA DEATH RATES BY AGE AND SEX

American Indians and Alaska Natives, IHS Service Area, 1996-1998, and U.S. All-Races and White Populations, 1997
(Rate per 100,000 Population)

	American Indian and Alaska Native					
	Both Sexes		Male		Female	
Age Group	Unadjusted	Adjusted[1]	Unadjusted	Adjusted[1]	Unadjusted	Adjusted[1]
Under 1 year	32.9	33.8	44.0	42.2	21.6	25.1
1-4 years	1.7	2.0	1.5	1.5	2.0	2.5
5-14 years	0.4	0.8	0.4	0.6	0.4	0.9
15-24 years	1.2	1.4	1.0	1.5	1.3	1.3
25-34 years	4.3	5.2	5.6	6.2	3.0	4.3
35-44 years	9.5	10.5	11.4	11.8	7.8	9.2
45-54 years	20.6	21.8	28.9	30.7	13.0	13.5
55-64 years	27.4	29.1	27.6	29.4	27.2	28.8
65-74 years	91.7	100.3	119.3	131.3	69.8	75.7
75-84 years	262.7	294.2	398.1	455.9	171.7	185.4
85 years +	1,175.4	1,209.7	1,390.9	1,444.4	1,050.8	1,074.0

	U.S. All Races			U.S. White		
Age Group	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	11.1	13.2	8.8	8.7	10.8	6.5
1-4 years	1.2	1.1	1.2	1.0	0.9	1.1
5-14 years	0.4	0.4	0.4	0.3	0.3	0.3
15-24 years	0.6	0.6	0.6	0.5	0.6	0.5
25-34 years	1.3	1.6	1.1	1.1	1.3	0.8
35-44 years	3.2	3.9	2.5	2.6	3.2	2.1
45-54 years	6.6	8.4	5.0	5.6	6.8	4.4
55-64 years	17.2	21.1	13.7	15.6	18.6	12.7
65-74 years	57.0	74.3	42.9	55.0	71.5	41.5
75-84 years	233.7	301.6	189.3	233.0	298.8	189.8
85 years +	1,024.7	1,250.5	933.7	1,049.2	1,280.5	957.1

[1] Adjusted to compensate for misreporting of AI/AN race on state death certificates.

CHART 23 AGE-ADJUSTED ALZHEIMER'S DISEASE DEATH RATES

The age-adjusted Alzheimer's disease AI/AN deaths rate of 0.3 deaths per 100,000 population for the 1979-1981 three-year period increased to 1.3 deaths per 100,000 population for 1996-1998. This is an increase of 333 percent. The U.S. all-races rate of 2.7 in 1997 is 2.1 times the 1996-1998 AI/AN rate of 1.3. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

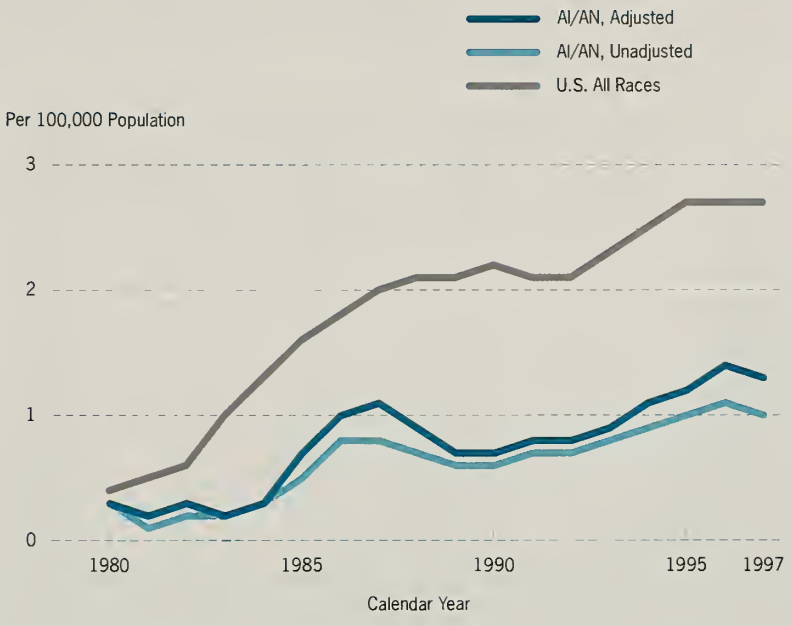

TABLE 23 ALZHEIMER'S DISEASE DEATHS AND DEATH RATES

American Indians and Alaska Natives, IHS Service Area, and U.S. All-Races and White Populations, 1980-1997
(Age-Adjusted Rate per 100,000 Population)

	American Indian and Alaska Native				U.S. All Races	U.S. White	Ratio of American Indian and Alaska Native[1] to:	
Calendar Year(s)	Number Unadjusted	Number Adjusted[1]	Rate Unadjusted	Rate Adjusted[1]	Rate	Rate	U.S. All Races	U.S. White
(1998)	17	20						
1996-1998 (1997)	18	24	1.0	1.3	2.7	2.9	0.5	0.4
1995-1997 (1996)	18	24	1.1	1.4	2.7	2.8	0.5	0.5
1994-1996 (1995)	18	19	1.0	1.2	2.7	2.8	0.4	0.4
1993-1995 (1994)	13	15	0.9	1.1	2.5	2.6	0.4	0.4
1992-1994 (1993)	12	14	0.8	0.9	2.3	2.4	0.4	0.4
1991-1993 (1992)	12	13	0.7	0.8	2.1	2.2	0.4	0.4
1990-1992 (1991)	8	9	0.7	0.8	2.1	2.2	0.4	0.4
1989-1991 (1990)	8	9	0.6	0.7	2.2	2.3	0.3	0.3
1988-1990 (1989)	8	8	0.6	0.7	2.1	2.2	0.3	0.3
1987-1989 (1988)	7	9	0.7	0.9	2.1	2.2	0.4	0.4
1986-1988 (1987)	10	13	0.8	1.1	2.0	2.1	0.6	0.5
1985-1987 (1986)	9	12	0.8	1.0	1.8	1.9	0.6	0.5
1984-1986 (1985)	3	4	0.5	0.7	1.6	1.7	0.4	0.4
1983-1985 (1984)	2	2	0.3	0.3	1.3	1.4	0.2	0.2
1982-1984 (1983)	4	4	0.2	0.2	1.0	1.1	0.2	0.2
1981-1983 (1982)	—*	—*	0.2	0.3	0.6	0.7	0.5	0.4
1980-1982 (1981)	2	4	0.1	0.2	0.5	0.5	0.4	0.4
1979-1981 (1980)	1	1	0.3	0.3	0.4	0.4	0.8	0.8
(1979)	2	2						

—* Represents zero.

[1] Adjusted — specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

NOTE: Alzheimer's death data are introduced in 1979 for the IHS service area. The AI/AN death rate columns present data for the three-year period specified and are age-adjusted to the 1940 standard population; the U.S. all-races and U.S. white columns present data for a one-year period. The number columns indicate total AI/AN deaths for the one-year period specified.

CHART 24 ALZHEIMER'S DISEASE DEATH RATES BY AGE AND SEX, AMERICAN INDIANS AND ALASKA NATIVES (1996-1998) AND U.S. ALL-RACES (1997)

The age-specific Alzheimer's death rate (1996-1998) for AI/AN males were higher than AI/AN females in age groups 65 to 84 years. For the age groups 55 to 64 years and 85 years and over, the AI/AN female rate was greater than the AI/AN male rate. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

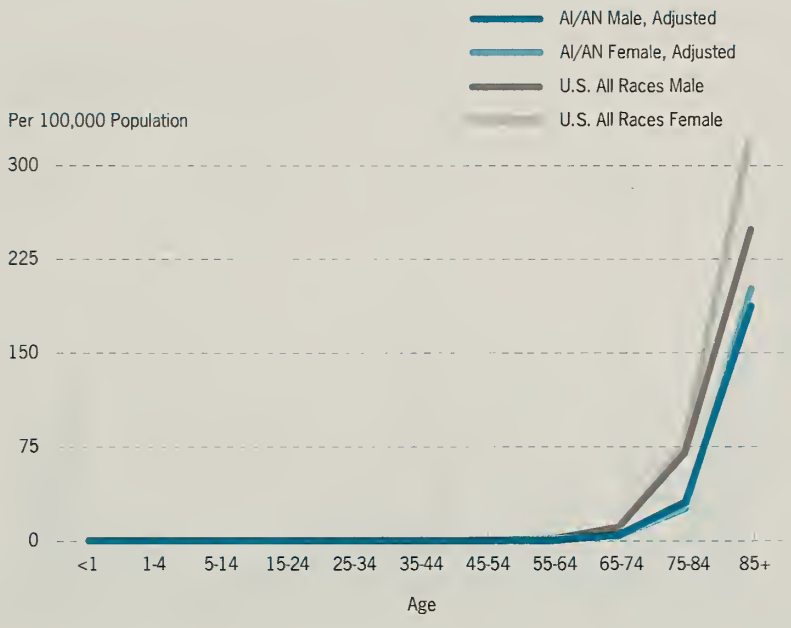

TABLE 24 ALZHEIMER'S DISEASE DEATH RATES BY AGE AND SEX

American Indians and Alaska Natives, IHS Service Area, 1996-1998, and U.S. All-Races and White Populations, 1997
(Rate per 100,000 Population)

	American Indian and Alaska Native					
	Both Sexes		Male		Female	
Age Group	Unadjusted	Adjusted[1]	Unadjusted	Adjusted[1]	Unadjusted	Adjusted[1]
Under 1 year	—*	—*	—*	—*	—*	—*
1-4 years	—*	—*	—*	—*	—*	—*
5-14 years	—*	—*	—*	—*	—*	—*
15-24 years	—*	—*	—*	—*	—*	—*
25-34 years	—*	—*	—*	—*	—*	—*
35-44 years	—*	—*	—*	—*	—*	—*
45-54 years	—*	—*	—*	—*	—*	—*
55-64 years	0.4	0.9	—*	—*	0.8	1.6
65-74 years	3.3	4.0	3.0	4.5	3.5	3.5
75-84 years	20.5	27.4	23.8	30.6	18.3	25.2
85 years +	156.7	195.9	160.5	187.2	154.5	200.9

	U.S. All Races			U.S. White		
Age Group	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	—*	—*	—*	—*	—*	—*
1-4 years	—*	—*	—*	—*	—*	—*
5-14 years	—*	—*	—*	—*	—*	—*
15-24 years	—*	—*	—*	—*	—*	—*
25-34 years	—*	—*	—*	—*	—*	—*
35-44 years	—*	—*	—*	—*	—*	—*
45-54 years	0.1	0.1	0.1	0.2	0.1	0.2
55-64 years	1.2	1.2	1.2	1.3	1.3	1.3
65-74 years	10.8	10.7	10.8	11.2	11.1	11.3
75-84 years	73.3	70.0	75.4	76.3	72.2	78.9
85 years +	299.2	248.4	319.7	313.6	259.0	335.2

—* Represents zero.

[1] Adjusted to compensate for misreporting of AI/AN race on state death certificates.

CHART 25 HOSPITAL DISCHARGE RATES BY AGE

For both the Indian Health Service (FY 2001 and FY 2000) and U.S. (CY 2000), discharge rates were highest for the age groups under 1 year and over 65 years. The U.S. rate (CY 2000) was greater than the AI/AN rate (CY 2000) for all age groups except 1 to 4 years.

The IHS hospital (IHS and Tribal direct and contract general hospitals) discharge rate, all ages (FY 2000), is considerably less than the rate for U.S. general short-stay hospitals, i.e., 61.3 discharges per 1,000 population compared to 114.0, or 46 percent less. The gap is even greater for those aged 65 years and older. The IHS rate (176.5) is less than half of the U.S. rate (359.6).

TABLE 25 COMPARISON OF IHS AND U.S. HOSPITAL DISCHARGE RATES BY AGE

IHS and Tribal Direct and Contract General Hospitals, FY 2001 and 2000; U.S. General Short-Stay Hospitals, CY 2000

	Discharges per 1,000 Population			
Age of Admission	**IHS FY 2001**	**IHS FY 2000**	**U.S. CY 2000**	**Percent Difference IHS (FY 2000) Rate to U.S. Rate**
All Ages	59.9	61.3	114.0	-46.2
Under 1 year	152.3	119.6	195.7	-38.9
1-4 years	45.2	50.0	44.9	11.4
5-14 years	10.9	11.8	22.0	-46.4
15-19 years	31.9	34.8	56.1	-38.0
20-24 years	60.1	61.6	89.7	-31.3
25-34 years	66.5	67.8	97.7	-30.6
35-44 years	66.1	66.8	76.1	-12.2
45-54 years	79.5	77.8	94.2	-17.4
55-64 years	116.6	116.6	145.4	-19.8
65 years and over	176.5	184.4	359.6	-48.7

NOTE: IHS discharge rates were calculated using the IHS FY 2000 and FY 2001 user populations; excludes newborn infants.

SOURCES: IHS — National Patient Information Reporting System (NPIRS); U.S. — National Hospital Discharge Survey: 2000 Annual Summary, National Center for Health Statistics, Vital Health Stat 13(153) 2000[10]

CHART 26 PERCENT DISTRIBUTION FOR POPULATION AND PATIENT CARE WORKLOADS, AGES 25 AND OVER, FY 2001

AI/AN over 64 years of age comprise 5.9 percent of the IHS user population but consume considerably higher percentages of IHS health services, i.e., 14.7 percent of the ambulatory medical clinical impressions, 17.4 percent of the inpatient discharges, and 23.8 percent of the inpatient days. A similar relationship exists for AI/AN in the 55 to 64 year age group, although to a lesser degree for inpatient services. They are 5.6 percent of the user population but have 13.0 percent of the ambulatory medical clinical impressions, 11.0 percent of the inpatient discharges, and 13.4 percent of the inpatient days.

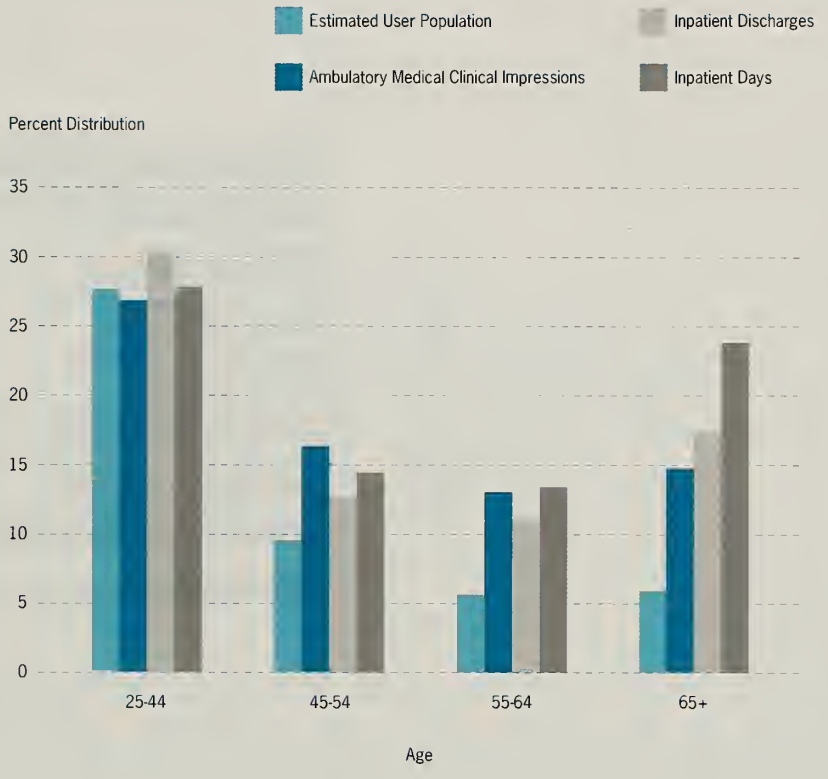

TABLE 26 PERCENT DISTRIBUTIONS FOR ESTIMATED POPULATION, AMBULATORY MEDICAL CLINICAL IMPRESSIONS, AND INPATIENT DISCHARGES AND DAYS, FY 2001

	Age								
Distribution	**All Ages**	**Under 1 year**	**1-4 years**	**5-14 years**	**15-24 years**	**25-44 years**	**45-54 years**	**55-64 years**	**65 years & over**
Estimated user population	100.0	1.5	8.3	21.8	19.3	27.6	9.5	5.6	5.9
Ambulatory medical clinical impressions	100.0	3.1	5.6	9.1	11.4	26.8	16.3	13.0	14.7
Inpatient discharges*	100.0	5.4	3.9	4.1	15.2	30.4	12.6	11.0	17.4
Inpatient days*	100.0	4.3	2.3	3.0	11.0	27.8	14.4	13.4	23.8

* Newborns not included

CHART 27 IHS PUBLIC HEALTH NURSING VISITS BY AGE, FY 2001 VERSUS 1990 CENSUS

In FY 2001, 17.3 percent of public health nursing visits pertained to children under 5 years of age and 19.6 percent pertained to adults over the age of 64. Based on the 1990 census, these two age groups comprised much smaller proportions of the AI/AN population 12 percent and 5.7 percent, respectively.

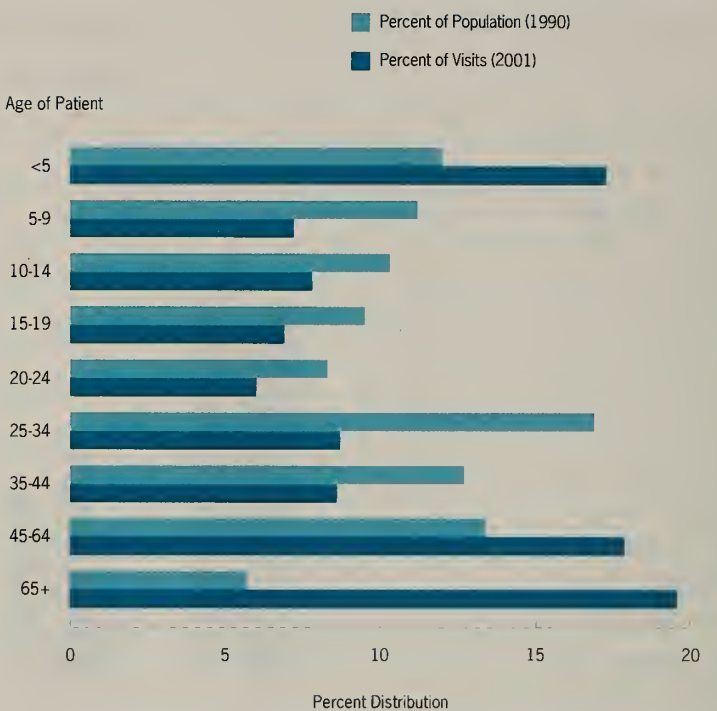

TABLE 27 IHS PUBLIC HEALTH NURSING VISITS BY AGE OF PATIENTS, FY 2001 VISITS COMPARED WITH 1990 CENSUS DATA

	PHN Visits			
Age Group	Number[1]	Percent Distribution	1990 Census Percent Distribution[2]	Ratio PHN Visit Distribution to 1990 Census
All Ages	379,540	100.0	100.0	
Under 5 years	65,818	17.3	12.0	1.4
5 to 9 years	27,469	7.2	11.2	0.6
10 to14 years	29,503	7.8	10.3	0.8
15 to 19 years	26,178	6.9	9.5	0.7
20 to 24 years	22,878	6.0	8.3	0.7
25 to 34 years	33,167	8.7	16.9	0.5
35 to 44 years	32,485	8.6	12.7	0.7
45 to 64 years	67,787	17.9	13.4	1.3
65 years +	74,237	19.6	5.7	3.4
Unspecified Age	18	0.0	—	—

[1] The same visit is counted more than once if it involved more than 1 family member, e.g., 2 children in the same family, both for child health, but different ages and gender.

[2] Based on data contained in the 1990 census modified age, race and sex file for American Indians and Alaska Natives residing in the IHS service area.

SOURCE: Indian Health Service, Public Health Nursing Report No. 12, Fiscal Year 2001.

CHART 28 COMMUNITY HEALTH REPRESENTATIVE (CHR) CLIENT CONTACTS, TREND IN LEADING DETAILED ACTIVITIES, FY 1993-1998

The two leading detailed activities for CHR contacts in FY 1998 were case management (22 percent) and health education (20 percent). In FY 1993, the top two were reversed order health education (23 percent) and case management (17 percent).

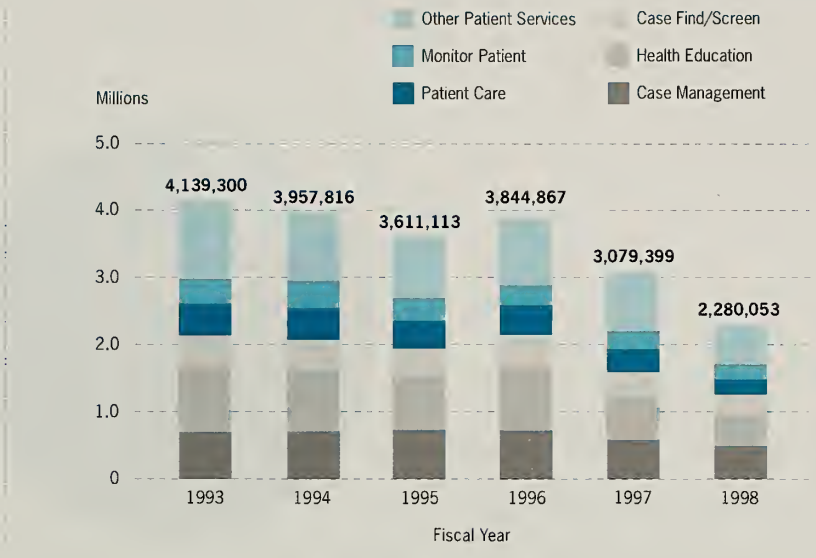

TABLE 28 COMMUNITY HEALTH REPRESENTATIVE (CHR) CLIENT CONTACTS FOR LEADING DETAILED ACTIVITIES, FY 1993-1998

Detailed Activity	1993	1994	1995	1996	1997	1998
Total Client Contacts[1]	**4,139,300**[2]	**3,957,816**[2]	**3,611,113**	**3,884,867**[2]	**3,079,399**[2]	**2,280,053**[2]
			Percent Distribution			
Total Client Contacts[3]	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Case Management	17.0	17.9	20.3	18.7	19.1	21.8
Health Education	23.4	23.3	22.4	24.2	20.9	19.9
Case Finding and Screening	11.2	11.2	11.0	12.4	11.6	13.4
Provide Patient Care	11.5	12.0	11.5	11.4	11.3	10.0
Monitor Patient	8.9	10.3	9.4	7.7	8.7	9.8
Transport Patient	10.5	8.9	8.6	7.6	9.4	8.5
Provide Environmental Services	5.4	4.7	5.9	5.0	5.2	5.2
Provide Homemaker Services	2.6	1.7	1.5	1.1	1.7	1.5
Interpret/Translate for Patient	1.2	0.9	1.0	3.0	0.9	1.0
Provide Emergency Care	0.5	0.8	0.4	0.3	0.6	0.8
Provide Other Patient Services[4]	7.8	8.3	8.0	8.5	10.6	8.1

[1] Estimated data based on CHR client contact reports completed during 12 sample reporting weeks between October 1 and September 30 and inflated to represent all weeks during each fiscal year.

[2] Total includes activity unspecified, not shown separately. Percent distribution based on number of client contacts with activity specified.

[3] Includes the delivery of medical supplies to patients in 1991.

[4] Includes client contacts with activity not reported.

NOTE: The reduction of CHR services from FY 1993 to FY 1998 reflects the transfer of resources to Tribes as part of the Self-Governance activity. Most Self-Governance Tribes elected not to use the national CHR program reporting system.

CHART 29 LEADING HEALTH PROBLEMS FOR COMMUNITY HEALTH REPRESENTATIVE (CHR) CLIENT CONTACTS, FY 1998

The two leading health problems for CHR contacts in FY 1998 were health promotion/disease prevention (19 percent) and diabetes (14 percent).

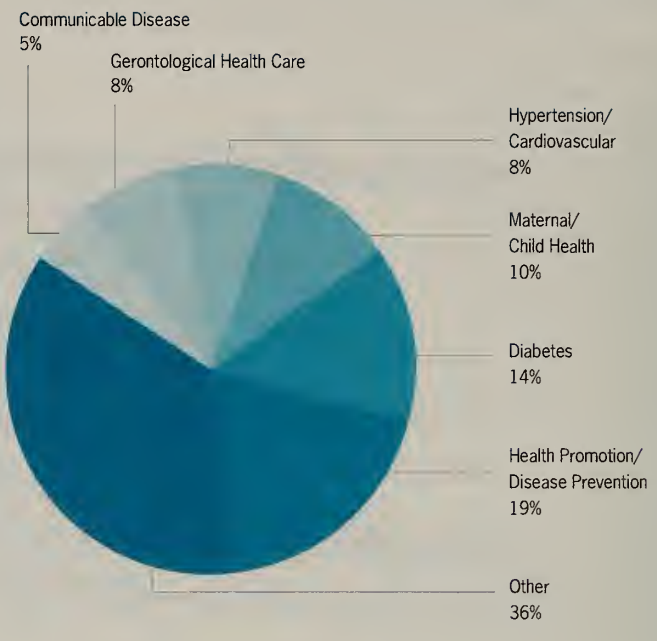

TABLE 29 COMMUNITY HEALTH REPRESENTATIVE (CHR) CLIENT CONTACTS FOR LEADING HEALTH PROBLEMS, FY 1998

Health Problem	Number	Percent Distribution
Total Client Contacts[1]	**2,280,053**	**100.0**
Health Promotion/Disease Prevention	437,648	19.2
Diabetes	315,969	13.9
Maternal/Child Health	240,024	10.5
Hypertension/Cardiovascular Disease	190,211	8.3
Gerontological Health Care	176,653	7.7
Communicable Disease	104,139	4.6
Community Injury Control	80,842	3.5
Dental	45,548	2.0
Alcohol/Substance Abuse	40,608	1.8
Cancer	35,994	1.6
Mental Health	15,964	0.7
HIV/AIDS/ARC[2]	13,424	0.6
Other General Medical	419,447	18.4
Not Specified	163,582	7.2

[1] Estimated data based on CHR client contact reports completed during 12 sample reporting weeks between October 1, 1997 and September 30, 1998 and inflated to represent all weeks during FY 1998.

[2] Human immunodeficiency virus infection, acquired immunodeficiency syndrome (AIDS) and AIDS-related condition.

GLOSSARY OF ICD-9 CODES

LIST OF 72 SELECTED CAUSES OF DEATH (1979-PRESENT)

Cause of Death	ICD-9 Codes
Shigellosis and amebiasis	004,006
Certain other intestinal infections	007-009
Tuberculosis	010-018
Tuberculosis of respiratory system	010-012
Other tuberculosis	013-018
Whooping cough	033
Streptococcal sore throat, scarlatina, and erysipelas	034-035
Meningococcal infection	036
Septicemia	038
Acute poliomyelitis	045
Measles	055
Viral hepatitis	070
Syphilis	090-097
All other infectious and parasitic diseases	001-003,005,020-032,037,039-041,*042-*044,046-054,056-066,071-088,098-139
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues	140-208
Malignant neoplasms of lip, oral cavity, and pharynx	140-149
Malignant neoplasms of digestive organs and peritoneum	150-159
Malignant neoplasms of respiratory and intrathoracic organs	160-165
Malignant neoplasm of breast	174-175
Malignant neoplasms of genital organs	179-187
Malignant neoplasms of urinary organs	188-189
Malignant neoplasms of all other and unspecified sites	170-173,190-199
Leukemia	204-208
Other malignant neoplasms of lymphatic and hematopoietic tissues	200-203
Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature	210-239
Diabetes mellitus	250
Nutritional deficiencies	260-269
Anemias	280-285
Meningitis	320-322
Major cardiovascular diseases	390-448
Diseases of heart	390-398,402,404-429
Rheumatic fever and rheumatic heart disease	390-398
Hypertensive heart disease	402
Hypertensive heart and renal disease	404
Ischemic heart disease	410-414
Acute myocardial infarction	410
Other acute and subacute forms of ischemic heart disease	411
Angina pectoris	413
Old myocardial infarction and other forms of chronic ischemic heart disease	412,414
Other diseases of endocardium	424
All other forms of heart disease	415-423,425-429
Hypertension with or without renal disease	401,403
Cerebrovascular diseases	430-438
Intracerebral and other intracranial hemorrhage	431-432
Cerebral thrombosis and unspecified occlusion of cerebral arteries	434.0,434.9
Cerebral embolism	434.1
All other and late effects of cerebrovascular diseases	430,433,435-438
Atherosclerosis	440
Other diseases of arteries, arterioles, and capillaries	441-448
Acute bronchitis and bronchiolitis	466
Pneumonia and influenza	480-487
Pneumonia	480-486
Influenza	487

Cause of Death	ICD-9 Codes
Chronic obstructive pulmonary diseases and allied conditions	490-496
Bronchitis, chronic and unspecified	490-491
Emphysema	492
Asthma	493
Other chronic obstructive pulmonary diseases and allied conditions	494-496
Ulcer of stomach and duodenum	531-533
Appendicitis	540-543
Hernia of abdominal cavity and intestinal obstruction without mention of hernia	550-553,560
Chronic liver disease and cirrhosis	571
Cholelithiasis and other disorders of gallbladder	574-575
Nephritis, nephrotic syndrome, and nephrosis	580-589
Acute glomerulonephritis and nephrotic syndrome	580-581
Chronic glomerulonephritis, nephritis and nephropathy, not specified as acute or chronic, and renal sclerosis, unspecified	582-583,587
Renal failure, disorders resulting from impaired renal function, and small kidney of unknown cause	584-586,588-589
Infections of kidney	590
Hyperplasia of prostate	600
Complications of pregnancy, childbirth, and the puerperium	630-676
Pregnancy with abortive outcome	630-638
Other complications of pregnancy, childbirth, and the puerperium	640-676
Congenital anomalies	740-759
Certain conditions originating in the perinatal period	760-779
Birth trauma, intrauterine hypoxia, birth asphyxia, and respiratory distress syndrome	767-769
Other conditions originating in the perinatal period	760-766,770-779
Symptoms, signs, and ill-defined conditions	780-799
All other diseases	Residual
Accidents and adverse effects	E800-E949
Motor vehicle accidents	E810-E825
All other accidents and adverse effects	E800-E807,E826-E949
Suicide	E950-E959
Homicide and legal intervention	E960-E978
All other external causes	E980-E999

LIST OF 61 SELECTED CAUSES OF INFANT DEATH (1979-PRESENT)

Cause of Death	ICD-9 Codes
Certain intestinal infections	008-009
Whooping cough	033
Meningococcal infection	036
Septicemia	038
Viral diseases	045-079
Congenital syphilis	090
Remainder of infectious and parasitic diseases	001,007,010-032,034-035,037,039-041,*042-*044,080-088,091-139
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues	140-208
Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature	210-239
Diseases of thymus gland	254
Cystic fibrosis	277.0
Diseases of blood and blood-forming organs	280-289
Meningitis	320-322
Other diseases of nervous system and sense organs	323-389

Cause of Death	ICD-9 Codes
Acute upper respiratory infections	460-465
Bronchitis and bronchiolitis	466,490-491
Pneumonia and influenza	480-487
Pneumonia	480-486
Influenza	487
Remainder of diseases of respiratory system	470-478,492-519
Hernia of abdominal cavity and intestinal obstruction without mention of hernia	550-553,560
Gastritis, duodenitis, and noninfective enteritis and colitis	535,555-558
Remainder of diseases of digestive system	520-534,536-543,562-579
Congenital anomalies	740-759
Anencephalus and similar anomalies	740
Spina bifida	741
Congenital hydrocephalus	742.3
Other congenital anomalies of central nervous system and eye	742.0-742.2,742.4-742.9,743
Congenital anomalies of heart	745-746
Other congenital anomalies of circulatory system	747
Congenital anomalies of respiratory system	748
Congenital anomalies of digestive system	749-751
Congenital anomalies of genitourinary system	752-753
Congenital anomalies of musculoskeletal system	754-756
Down's syndrome	758.0
Other chromosomal anomalies	758.1-758.9
All other and unspecified congenital anomalies	744,757,759
Certain conditions originating in the perinatal period	760-779
Newborn affected by maternal conditions, which may be unrelated to present pregnancy	760
Newborn affected by maternal complications of pregnancy	761
Newborn affected by complications of placenta, cord, and membranes	762
Newborn affected by other complications of labor and delivery	763
Slow fetal growth and fetal malnutrition	764
Disorders relating to short gestation and unspecified low birthweight	765
Disorders relating to long gestation and high birthweight	766
Birth trauma	767
Intrauterine hypoxia and birth asphyxia	768
Fetal distress in liveborn infant	768.2-768.4
Birth asphyxia	768.5-768.9
Respiratory distress syndrome	769
Other respiratory conditions of newborn	770
Infections specific to the perinatal period	771
Neonatal hemorrhage	772
Hemolytic disease of newborn, due to isoimmunization, and other perinatal jaundice	773-774
Sydrome of "infant of a diabetic mother" and neonatal diabetes mellitus	775.0-775.1
Hemorrhagic disease of newborn	776.0
All other and ill-defined conditions originating in the perinatal period	775.2-775.9,776.1-779
Symptoms, signs, and ill-defined conditions	780-799
Sudden infant death syndrome	798.0
Symptoms, signs, and all other ill-defined conditions	780-797,798.1-799
Accidents and adverse effects	E800-E949
Inhalation and ingestion of food or other object causing obstruction of respiratory tract or suffocation	E911-E912
Accidental mechanical suffocation	E913
Other accidental causes and adverse effects	E800-E910,E914-E949
Homicide	E960-E969
Child battering and other maltreatment	E967
Other homicide	E960-E966,E968-E969
All other causes	Residual

ADDITIONAL CAUSES OF DEATH AND THEIR CORRESPONDING ICD-9 CODES USED IN THIS PUBLICATION

(These categories are not included as part of the 72 cause of death or 61 cause of infant death lists. They are independent of these two lists but are valid cause of death codes to use for the causes indicated.)

Cause of Death	ICD-9 Codes
Alcohol-related deaths	291,303,305.0,357.5,425.5,535.3,571.0-571.3,790.3,E860
Breast cancer (females)	174
Cervical cancer	180
Colon-rectal cancer	153.0-154.3,154.8,159.0
Drug-related deaths	292,304,305.2-305.9,E850-E858,E950.0-E950.5,E962.0,E980.0-E980.5
Gastroenteric deaths	004,006-009,535,555-556,558,562
Human immunodeficiency virus (HIV) infection	*042*-044
Firearm deaths	E922,E955.0-E955.4,E965.0-E965.4,E970,E985.0-E985.4
Injury and poisoning	E800-E807,E810-E825,E826-E949,E950-E959, E960-E978,E980-E989,E990-E999
Other injuries	E980-E989,E990-E999
Lung cancer	162.2-162.9
Maternal deaths	630-676
Prostate cancer	185

LIST OF ICD-9-CM CODES USED IN PATIENT CARE CHARTS AND TABLES

Condition	ICD-9-CM Codes
Infectious and parasitic diseases	001-139
Neoplasms	140-239
Endocrine, nutritional, and metabolic diseases and immunity disorders	240-279
Diseases of the blood and blood-forming organs	280-289
Mental disorders	290-319
Diseases of the nervous system and sense organs	320-389
Diseases of the circulatory system	390-459
Diseases of the respiratory system	460-519
Diseases of the digestive system	520-579
Diseases of the genitourinary system	580-629
Complications of pregnancy, childbirth, and the puerperium	630-676
Diseases of the skin and subcutaneous tissue	680-709
Diseases of the musculoskeletal system and connective tissue	710-739
Congenital anomalies	740-759
Certain conditions originating in the perinatal period	760-779
Symptoms, signs, and ill-defined conditions	780-799
Injury and poisoning	800-999
Supplementary classification (classification of factors influencing health status and contact with health service)	V01-V82

METHODS USED TO RANK LEADING SITES OF CANCER DEATHS

The causes designated by the symbol # were ranked to designate the leading sites of cancer deaths.

Site of Cancer Death	ICD-9 Codes
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues	140-208
Malignant neoplasms of lip, oral cavity, and pharynx	140-149
# of lip	140
# of tongue	141
# of pharynx	146-149.0
of other and ill-defined sites within the lip, oral cavity, and pharynx	142-145,149.1-149.9
Malignant neoplasms of digestive organs and peritoneum	150-159
# of esophagus	150
# of stomach	151
# of small intestine, including duodenum	152
# of colon	153
Hepatic and splenic flexures and transverse colon	153.0-153.1,153.7
Descending colon	153.2
Sigmoid colon	153.3
# Cecum, appendix, and ascending colon	153.4-153.6
Other and colon, unspecified	153.8-153.9
# of rectum, rectosigmoid junction, and anus	154
# of liver and intrahepatic bile ducts	155
Liver, primary	155.0
Intrahepatic bile ducts	155.1
Liver, not specified as primary or secondary	155.2
# of gallbladder and extrahepatic bile ducts	156
# of pancreas	157
of retroperitoneum, peritoneum, and other and ill-defined sites within the digestive organs and peritoneum	158-159
Malignant neoplasms of respiratory and intrathoracic organs	160-165
# of larynx	161
# of trachea, bronchus, and lung	162
of all other and ill-defined sites within the respiratory system and intrathoracic organs	160,163-165
Malignant neoplasms of bone, connective tissue, skin, and breast	170-175
# of bone and articular cartilage	170
# of connective and other soft tissue	171
# Melanoma of skin	172
Other malignant neoplasms of skin	173
# of female breast	174
# of male breast	175
Maligant neoplasms of genital organs	179-187
# of cervix uteri	180
of other parts of uterus	179,181-182
# of ovary and other uterine adnexa	183
of other and unspecified female genital organs	184
# of prostate	185
# of testis	186
# of penis and other male genital organs	187

Site of Cancer Death	ICD-9 Codes
Malignant neoplasms of urinary organs	188-189
# of bladder	188
# of kidney and other and unspecified urinary organs	189
Malignant neoplasms of other and unspecified sites	190-199
# of eye	190
# of brain	191
of other and unspecified parts of nervous system	192
# of thyroid gland and other endocruine glands and related structures	193-194
of all other and unspecified sites	195-199
Malignant neoplasms of lymphatic and hematopoietic tissues	200-208
# Lymphosarcoma and reticulosarcoma	200
# Hodgkin's disease	201
Other malignant neoplasms of lymphoid and histiocytic tissue	202
# Multiple myeloma and immunoproliferative neoplasms	203
# Leukemia	204-208
Lymphoid leukemia	204
Myeloid leukemia	205
Monocytic leukemia	206
Other and unspecified leukemia	207-208

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